Hawaii State Department of Health

Support Documents For
5-Year Regional Haze Progress Report

November 2018

Prepared by:
Clean Air Branch
Hawaii State Department of Health

David Y. Ige
Governor of Hawaii

Bruce S. Anderson, Ph.D.
Director of Health

DAVID Y. IGE
GOVERNOR OF HAWAII

BRUCE S. ANDERSON, Ph.D.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
P.O. Box 3378
HONOLULU, HAWAII 96801-3378

In reply, please refer to:
File:

June 7, 2018

18-409E CAB
File No. 0234

Mr. Norman M. Uchida
Manager, Production Department
Hawaii Electric Light Company, Inc.
P.O. Box 1027
Hilo, Hawaii 96721-1027

Dear Mr. Uchida:

SUBJECT: Amendment of Covered Source Permit (CSP) No. 0234-01-C
Application for Significant Modification No. 0234-04
Hawaii Electric Light Company, Inc. (HELCO)
Kanoelehua Hill Generating Station
Two (2) Boilers, One (1) Combustion Turbine, and Four (4) Diesel Engines
Location At: Hilo, Hawaii
UTM Coordinates: 284,300 Meters East and 2,179,800 Meters North, Zone 5

The Department of Health, Clean Air Branch (herein after referred to as Department), acknowledges receipt of your comments on the subject CSP.

The subject permit was recently approved by the Department subsequent to the thirty-day (30-day) public comment period and the forty-five-day (45-day) review period by the U.S. Environmental Protection Agency (EPA). Enclosed are the signed CSP, copy of the permit application review, and copy of the summary of public comments received.

Pursuant to Hawaii Administrative Rules, Section 11-60.1-100, you may petition the Administrator of the U.S. EPA in accordance with 40 Code of Federal Regulations 70.8(d) or petition the Department for a contested case hearing. The petition to the Department for a contested case hearing should be made within ninety (90) days of the date of permit issuance and mailed to:

State of Hawaii
Clean Air Branch
2827 Waimano Home Road #130
Pearl City, HI 96782

If there are any questions regarding this matter, please contact Mr. Michael Madsen of my staff at (808) 586-4200.

Sincerely,

Marianne Rossio

MARIANNE ROSSIO, P.E.
Manager, Clean Air Branch

MM:rg
Enclosures
c: Christine Y. Nakayama, Hawaiian Electric Company, Inc.
U.S. EPA, Region 9

DAVID Y. IGE
GOVERNOR OF HAWAII

BRUCE S. ANDERSON, Ph.D.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
P.O. Box 3378
HONOLULU, HAWAII 96801-3378

In reply, please refer to:
File:

June 6, 2018

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
(7017 0660 0001 0766 0935)

18-356E CAB
File No. 0234-04

Mr. Norman M. Uchida
Manager, Production Department
Hawaii Electric Light Company, Inc.
P.O. Box 1027
Hilo, Hawaii 96721-1027

Dear Mr. Uchida:

SUBJECT: Amendment of Covered Source Permit (CSP) No. 0234-01-C
Application for Significant Modification No. 0234-04
Hawaii Electric Light Company, Inc. (HELCO)
Kanoelehua Hill Generating Station
Two (2) Boilers, One (1) Combustion Turbine, and Four (4) Diesel Engines
Located At: Hilo, Hawaii
UTM Coordinates: 284,300 Meters East and 2,179,800 Meters North, Zone 5
Date of Expiration: January 17, 2010 (date will be revised upon permit renewal)

In accordance with Hawaii Administrative Rules (HAR), Chapter 11-60.1, and pursuant to your application for Significant Modification dated November 27, 2017, the Department of Health, Clean Air Branch (herein after referred to as Department), hereby amends CSP No. 0234-01-C issued to HELCO on January 18, 2005, for the Kanoelehua Hill Generating Station. This amendment incorporates requirements specified for the boilers in Hawaii's Regional Haze Federal Implementation Plan (RH-FIP) and National Emissions Standards for Hazardous Air Pollutants (NESHAP) for area source boilers. The amendment also updates fuel, opacity/visible emissions, compliance certification, annual emissions, and annual fee requirements.

Pursuant to Hawaii's RH-FIP, the amendment incorporates a 3,550 ton per year sulfur dioxide (SO_2) emissions cap specified as the sum of the total emissions from five (5) boilers at three (3) HELCO power plants on the island of Hawaii. Affected units are Kanoelehua Hill Generating Station, Boilers Hill 5 and Hill 6; Puna Power Plant, Boiler; and Shipman Power Plant, Boilers S-3 and S-4. Since the Shipman Generating Station closed, the cap applies only to boilers at the Kanoelehua Hill and Puna facilities.

Kanoelehua Hill Generating Station, Boilers Hill 5 and Hill 6, are subject to 40 Code of Federal Regulations (CFR) Part 63, NESHAP, Subpart JJJJJJ. Primary provisions from this NESHAP are five-year (5-Year) boiler tune-ups.

The enclosed Attachment IIC amends and supersedes in its entirety Attachment IIC from CSP No. 0234-01-C issued on January 18, 2005, for Kanoelehua Hill Generating Station, Boilers Hill 5 and Hill 6.

The following enclosed forms are added for the additional monitoring and reporting requirements required for this CSP:

Monitoring Report Form: Fuel Certification
Monitoring Report Form: Sulfur Dioxide (SO_2) Emissions – Boilers
Monitoring Report Form: Boiler Tune-Up
5-Year Compliance Certification Report Form: Boiler

The following revised forms and attachments are enclosed and supersede the corresponding forms and attachments from the January 18, 2005, CSP, in their entirety:

Revised Forms and Attachments	Corresponding Forms and Attachments January 18, 2005 Permit
Attachment III: Annual Fee Requirements	Attachment III: Annual Fee Requirements
Annual Emissions Report Form: Boilers	Annual Emissions Report Form: Boilers
Monitoring Report Form: Specification Used Oil – Boilers	Monitoring Report Form: Specification Used Oil - Consumption
Visible Emissions Form Requirements State of Hawaii	Visible Emissions Form Requirements State of Hawaii
Visible Emissions Form	Monitoring Report Form: Visible Emissions
Compliance Certification Form	Compliance Certification Form

The following amended Attachment I, Standard Condition No. 29 supersedes in its entirety the corresponding Standard Condition No. 29 from the January 18, 2005, CSP, in its entirety:

29. **Any document (including reports) required to be submitted by this permit shall be certified as being true, accurate, and complete by a responsible official in accordance with HAR, Sections 11-60.1-1 and 11-60.1-4, and shall be mailed to the following address:**

State of Hawaii
Clean Air Branch
2827 Waimano Home Road #130
Pearl City, HI 96782

Upon request and as required by this permit, all correspondence to the State of Hawaii Department of Health associated with this CSP shall have duplicate copies forwarded to:

Manager
Enforcement Division, Air Section
U.S. Environmental Protection Agency, Reg. 9
75 Hawthorne Street, ENF-2-1
San Francisco, CA 94105

All other permit conditions of CSP No. 0234-01-C issued on January 18, 2005, shall not be affected and shall remain valid.

A receipt for the application filing fee of $1,000.00 is enclosed.

If there are any questions regarding these matters, please contact Mr. Michael Madsen of the Clean Air Branch at (808) 586-4200.

Sincerely,

JOANNA SETO, P.E., ACTING CHIEF
Environmental Management Division

MM:rg

Enclosures

ATTACHMENT IIC: SPECIAL CONDITIONS – BOILERS
COVERED SOURCE PERMIT NO. 0234-01-C

Amended Date: June 6, 2018 **Expiration Date: January 17, 2010 (see note 1)**

In addition to the standard conditions of the Covered Source Permit, the following special conditions shall apply to the permitted facility:

Section A. Equipment Description

1. This permit encompasses the following equipment and associated appurtenances:

Unit	Description
Hill 5	One (1) 14.1 MW Combustion Engineering Boiler, Model No. VU 60; and
Hill 6	One (1) 23 MW Combustion Engineering Boiler, Model No. VU 60.

(Auth.: HAR §11-60.1-3)

2. The permittee shall attach an identification tag or name plate on each boiler, which identifies the model number, serial number, and manufacturer. The identification tag or name plate shall be permanently attached to the boilers at a conspicuous location.

(Auth.: HAR §11-60.1-5, §11-60.1-90)

Section B. Applicable Federal Regulations

1. Boilers Hill 5 and Hill 6 are subject to the provisions of the following federal regulations:

   a. 40 CFR Part 52, Approval and Promulgation of Implementation Plans, Subpart M, Hawaii, §52.633, Visibility Protection;
   b. 40 CFR Part 63, National Emission Standards for Hazardous Air Pollutants (NESHAP) for Source Categories, Subpart A, General Provisions; and
   c. 40 CFR Part 63, NESHAP for Source Categories, Subpart JJJJJJ, NESHAP for Industrial, Commercial, and Institutional Boilers Area Sources.

   (Auth.: HAR §11-60.1-3, §11-60.1-90, §11-60.1-174; 40 CFR §52.633, §63.1, §63.11193)[2,3]

2. The permittee shall comply with all applicable provisions of these standards, including all emission limits, notification, testing, monitoring, and reporting requirements. The major requirements of these standards are detailed in the special conditions of this permit.

   (Auth.: HAR §11-60.1-3, §11-60.1-90, §11-60.1-174; 40 CFR §52.633, §63.1, §63.11193)[2,3]

Section C. Operational and Emission Limitations

1. Fuel Specifications

   a. Boilers Hill 5 and Hill 6 shall be fired only on the following fuels:

      i. Fuel oil No. 2 with a maximum sulfur content not to exceed 2.0 percent by weight;
      ii. Fuel oil No. 6 with a maximum sulfur content not to exceed 2.0 percent by weight;
      iii. Specification used oil as specified in Attachment IIC, Special Condition No. C.5;
      iv. An alternative fuel allowed under Attachment IIC, Special Condition No. C.6.a; or
      v. Any combination of the above; and
      vi. Propane as an ignition fuel for Hill 5.

   b. The use of fuel additives shall be in accordance with Attachment IIC, Special Condition No. C.6.b.

   (Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-38, §11-60.1-90)

2. Regional Haze – Sulfur Dioxide (SO_2) Emissions Cap

   a. The total combined SO_2 emissions from Kanoelehua Hill Generating Station, Boilers Hill 5 and Hill 6, and Puna Generating Station, Boiler, shall not exceed 3,550 tons in any rolling twelve-month (12-month) period.
   b. Compliance with the SO_2 emissions cap specified in Attachment IIC, Special Condition No. C.2.a, is required at all times **on and after December 31, 2018.**

   (Auth.: HAR §11-60.1-3, §11-60.1-90; 40 CFR §52.633)[2,3]

3. Opacity Limits

   a. On and after the date of start-up, Boiler Hill 5 shall not exhibit visible emissions of forty (40) percent opacity or greater for any six (6) minute averaging period, except as follows: during start-up, shut-down, or equipment breakdown, Boiler Hill 5 may exhibit visible emissions not greater than sixty (60) percent opacity for a period aggregating not more than six (6) minutes in any sixty (60) minute period.
   b. Boiler Hill 6 shall not exhibit visible emissions of twenty (20) percent opacity or greater for any six (6) minute averaging period, except as follows: during start-up, shut-down, or equipment breakdown, Boiler Hill 6 may exhibit visible emissions not greater than sixty (60) percent opacity for a period aggregating not more than six (6) minutes in any sixty (60) minute period.

   (Auth.: HAR §11-60.1-3, §1-60.1-5, §11-60.1-32, §11-60.1-90)

4. Boiler Tune-Ups

   a. The boilers shall be properly maintained and kept in good operating condition at all times with scheduled inspection and maintenance as specified by the manufacturer, 40 CFR Part 63, Subpart JJJJJJ, and as needed.
   b. The permittee shall conduct five (5) year tune-ups for the boilers in accordance with 40 CFR Part 63, §63.11223. Each five (5) year tune-up must be conducted no more than sixty-one (61) months after the previous tune-up. Procedures for conducting five (5) year tune-ups are specified in Attachment IIC, Special Condition No. D.4.

   (Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-90; 40 CFR §63.11196, §63.11201, §63.11223)[2]

5. Specification Used Oil

   a. The permit conditions prescribed herein may at any time be revised by the Department to conform to any state or federal promulgated rules on used oil.
   b. This permit shall not release the permittee from compliance with all applicable state and federal rules and regulations on handling, transporting, storing, and burning of used oil.
   c. The used oil shall be obtained from equipment owned, operated, or maintained by the permittee and shall consist of used oil, mixtures of used oil, and liquid substances containing used oil in accordance with HAR Title 11, Chapter 279.
   d. Used oil may be obtained from other sources, provided written notification identifying the new source is submitted to the Department and approved prior to accepting the used oil. Requests for obtaining used oil from other sources shall be in accordance with Attachment IIC, Special Condition No. E.9.
   e. The consumption of specification used oil shall not exceed 36,500 gallons in any rolling twelve-month (12-month) period.
   f. Used oil shall be sampled and analyzed before firing the used oil or blending the used oil with other fuels. Used oil samples shall be taken in such a manner that sampling is representative of the used oil collected.
   g. The specification used oil fired by the boilers shall meet the following limits:

Constituent/Property	Specification Allowable Limit
Sulfur	2% maximum
Arsenic	5 ppm maximum
Cadmium	2 ppm maximum
Chromium	10 ppm maximum
Lead	100 ppm maximum
Total Halogens	1,000 ppm maximum
Polychlorinated Biphenyls (PCB)	<2 ppm maximum
Flash Point	100 ^{O}F minimum

h. This permit does not authorize the permittee to burn hazardous waste or off-specification used oil. The permittee shall not burn the used oil if it is declared or determined to be a hazardous waste or off-specification used oil.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-90)

6. Alternate Operating Scenarios

a. Upon receiving written approval from the Department, the permittee may fire the boilers on an alternative fuel if burning the fuel does not require Prevention of Significant Deterioration (PSD) review, or compliance with another federal standard, such as a New Source Performance Standard (NSPS) or NESHAP requirement, that would not otherwise apply, or compliance with a requirement that is different from those specified in the permit. The alternative fuel shall be burned only temporarily and shall not result in an increase in emissions of any air pollutant or in the emission of any air pollutant not previously emitted. Requests for burning an alternate fuel shall be in accordance with Attachment IIC, Special Condition No. E.8.a.
b. Upon receiving written approval from the Department, the permittee may use specific fuel additives to control algae, lubricity, improve combustion, inhibit corrosion, or other reasons. Requests for using fuel additives shall be in accordance with Attachment II, Special Condition No. E.8.b.
c. The permittee may operate the boilers above one hundred percent (100%) peak load for no more than thirty (30) minutes in duration. The permittee shall record in a log the reason for operating above peak load with the date, time, operating load, and duration of each event the boilers operate above one hundred percent (100%) peak load.
d. The terms and conditions under each alternative operating scenario shall meet all applicable requirements including special conditions of this permit.

(Auth.: HAR §11-60.1-3, 11-60.1-5, §11-60.1-90)

Section D. Monitoring and Recordkeeping Requirements

1. Records

All records, including support information, shall be maintained for **at least five (5) years** from the date of the monitoring sample, measurement, test, report, or application. Support information includes all calibration and maintenance records and copies of all reports required by the permit. These records shall be true, accurate, and maintained in a permanent form suitable for inspection and made available to the U.S. EPA, Department, or its representative(s) upon request.

(Auth.: HAR §11-60.1-3, §11-60.1-11, §11-60.1-90)

2. Fuel Usage

   a. The permittee shall maintain a non-resetting fuel metering system or tank strapping gages for permanently recording the amount of each fuel fired by the boilers. The non-resetting meter shall not allow the manual resetting or other manual adjustments of the meter readings. The installation of any new non-resetting meters or the replacement of any existing non-resetting meters shall be designed to accommodate a minimum of five (5) years of equipment operation, considering any operational limitations, before the meter returns to a zero reading. For monitoring with tank gages, monthly usage of each fuel fired shall be calculated using daily tank strapping measurements. The following information shall be recorded on a monthly and twelve-month (12-month) basis for each fuel type fired in the boilers:

      i. Date of the meter and/or gage readings;
      ii. Beginning and ending of meter and/or gage readings for each month;
      iii. Type of fuel;
      iv. Total gallons of each fuel consumed each month; and
      v. Total gallons of each fuel consumed on a rolling twelve-month (12-month) basis.

   b. All fuel fired by the boilers shall be sampled and tested in accordance with the most current American Society for Testing and Materials (ASTM) methods. A representative sample of each batch of fuel received shall be analyzed for its sulfur content and heat value following ASTM Method D4057. The samples shall be analyzed for total sulfur content of the fuel using ASTM D129, or alternatively D1266, D1552, D2622, D4294, D5453, or D7039. The analysis may be performed by the permittee, the supplier, or third party lab.
   c. A representative sample shall be taken of the used oil prior to burning the fuel in the boilers. Each sample shall be submitted in a timely manner to a qualified laboratory for analysis to determine compliance with the limits specified in Attachment IIC, Special Condition No. C.5.g.
   d. The permittee shall maintain records of each laboratory analysis required in Attachment IIC, Special Condition Nos. D.2.b and D.2.c. At a minimum, the records shall indicate the date the batch sample was taken, amount fuel in gallons the sample represents, date of the laboratory analysis, and laboratory reports of each analysis.
   e. The permittee shall maintain records of fuel deliveries identifying the supplier, fuel type, date of delivery, and amount in gallons of the fuel delivered.

   (Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-38, §11-60.1-90)

3. Regional Haze – SO_2 Emissions Cap

   a. The permittee shall calculate and record on a monthly basis the SO_2 emissions for each boiler unit (Puna Generating Station, Boiler, and the Kanoelehua Hill Generating Station, Boilers Hill 5 and Hill 6) for the preceding month based on the fuel sulfur content, fuel heating value, and total gallons of fuel burned.
   b. The permittee shall calculate and record the total combined SO_2 emissions for all boiler units (Puna Generating Station, Boiler, and Kanoelehua Hill Generating Station, Boilers Hill 5 and Hill 6) on a monthly and rolling twelve-month (12-month) basis.
   c. The permittee shall maintain, monthly, the following supporting documents:

      i. The total gallons of each type of fuel fired in the boilers for the month; and
      ii. The information used to calculate SO_2 emissions for the month such as the sulfur content of the fuel, fuel density, fuel heating value, and basis for the fuel sulfur content used (fuel analysis showing date sample collected, type of fuel, sulfur content, and fuel heating value).

   (Auth.: HAR §11-60.1-3, §11-60.1-90; 40 CFR §52.633)[2,3]

4. Boiler Tune-Ups

   The tune-up must be conducted while burning the type of fuel (or fuels in the case of boilers that that routinely burn two types of fuels at the same time) that provided the majority of the heat input to the boiler over the twelve (12) months prior to the tune-up. The tune-up shall be conducted in accordance with 40 CFR §63.11223 as follows:

   a. As applicable, inspect the burner, clean or replace any components of the burner as necessary. The permittee may delay the burner inspection until the next scheduled unit shutdown or first outage, not to exceed seventy-two (72) months from the previous boiler inspection.
   b. If an oxygen trim system is utilized on a unit without emission standards to reduce the tune-up frequency to once every five (5) years, set the oxygen level no lower than the oxygen concentration measured during the most recent tune-up.
   c. Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specification, if available.
   d. Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly.
   e. Optimize total emissions of carbon monoxide (CO). This optimization should be consistent with the manufacturer's specifications, if available.

f. Measure the concentrations in the effluent stream of CO in parts per million (ppm), by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after adjustments are made). Measurements may be taken using a portable CO analyzer.

g. Maintain on-site a report containing the following information:

   i. The concentrations of CO in the effluent stream in ppm, by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler;
   ii. A description of any corrective actions taken as part of the boiler tune-up; and
   iii. The type and amount of fuel used over the twelve (12) months prior to the boiler tune-up, but only if the unit was physically and legally capable of using more than one (1) type of fuel during that period. Units sharing a fuel meter may estimate the fuel use by each unit.

h. If the boiler is not operating on the required date for a tune-up, the tune-up must be conducted within thirty (30) days of startup.

(Auth.: HAR §11-60.1-3, §11-60.1-90; 40 CFR §63.11223)[2,3]

5. Boiler Records

The permittee shall maintain records required by 40 CFR 63, Subpart JJJJJJ, for the Boilers as specified in 40 CFR §63.11225(c) and (d) including the following:

a. A copy of each notification and report submitted to comply with 40 CFR Part 63, Subpart JJJJJJ, and all documentation supporting any Notification of Compliance Status submitted;
b. Records identifying the boiler, the date of tune-up, the procedures followed for tune-up, and the manufacturer's specifications to which the boiler was tuned;
c. A copy of the energy assessment report;
d. Records of the occurrence and duration of each malfunction of the boiler;
e. Records of actions taken during periods of malfunction to minimize emissions in accordance with the general duty to minimize emissions in §63.11205(a), including corrective actions to restore the malfunctioning boiler to its normal or usual manner of operation; and
f. Records must be in a form suitable and readily available for expeditious review. Each record must be kept for **five (5) years** following the date of each recorded action. Each record must be kept on-site or be accessible from a central location by computer or other means that instantly provide access at the site for **at least two (2) years** after the date of each recorded action. Records may be kept off site for the remaining **three (3) years.**

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-11, §11-60.1-90; 40 CFR §63.11225)[2]

6. Visible Emissions

   The permittee shall conduct monthly (calendar month) visible emissions observations for each boiler subject to opacity limits by a certified reader in accordance with 40 CFR Part 60, Appendix A, Method 9 or U.S. EPA approved equivalent methods, or alternate methods with prior written approval from the Department. For each month, two (2) consecutive six (6) minute observations shall be taken at fifteen (15) second intervals. Records shall be completed and maintained in accordance with the enclosed **Visible Emissions Form Requirements**.

   (Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-90)

7. Inspection, Maintenance, and Repair Log

   An inspection, maintenance, and repair log shall be maintained for the equipment covered under this permit. Inspection and replacement of parts and repairs shall be well documented. At a minimum, the following records shall be maintained:

   a. The date of the inspection/maintenance/repair work;
   b. A description of the part(s) inspected or repaired;
   c. A description of the findings and any maintenance or repair work performed; and
   d. The name and title of the personnel performing the inspection/work.

   (Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-90)

8. Alternate Operating Scenarios

   a. The permittee shall contemporaneously with making a change from one operating scenario to another, record in a log at the permitted facility, the scenario under which it is operating.
   b. The permittee shall maintain all records associated with implementing an alternate operating scenario specified in Attachment IIC, Special Condition No. C.6.

   (Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-90)

Section E. Notification and Reporting Requirements

1. Standard Condition Reporting

   Notification and reporting pertaining to the following events shall be done in accordance with Attachment I, Standard Condition Nos. 17 and 25, respectively:

   a. Emissions of air pollutants in violation of HAR, Chapter 11-60.1 or this permit (excluding technology-based emission exceedences due to emergencies); and

b. Permanent discontinuance of construction, modification, relocation, or operation of the facility covered by this permit.

(Auth.: HAR §11-60.1-8, §11-60.1-15, §11-60.1-16, §11-60.1-90; SIP §11-60-10, §11-60.1-16)[4]

2. Deviations

The permittee shall report to the Department in writing, **within five (5) working days**, any deviations from the permit requirements, including those attributable to upset conditions, the probable cause of such deviations and any corrective actions or preventive measures taken. Corrective actions may include a requirement for additional source testing, more frequent monitoring, or could trigger implementation of a corrective action plan.

(Auth.: HAR §11-60.1-3, §11-60.1-16, §11-60.1-90; 40 CFR §52.633)[2,3]

3. Notifications

The permittee shall notify U.S. EPA, Region 9 in writing, of any exceedance of the emission cap specified in Attachment IIC, Special Condition No. C.2, within **thirty (30) days** of such exceedance.

(Auth.: HAR §11-60.1-90; 40 CFR §52.633)[2,3]

4. Monitoring Reports

a. The permittee shall submit **semi-annually** the following written reports to the Department. The reports shall be submitted **within sixty (60) days after** the end of each semi-annual calendar period (January 1 to June 30 and July 1 to December 31), and shall be signed and dated by a responsible official. The following enclosed forms, or equivalent forms, shall be used for reporting:

Monitoring Report Form: Fuel Certification;
Monitoring Report Form: Specification Used Oil – Boilers; and
Monitoring Report Form: Visible Emissions.

b. The permittee shall submit the following written report to the Department. The report shall be submitted within **sixty (60) days** after each boiler tune-up and shall be signed and dated by a responsible official. The following enclosed form, or equivalent form, shall be used for reporting:

Monitoring Report Form: Boiler Tune-Up

c. By **March 1, 2019**, and within **sixty (60) days** following the end of each semi-annual calendar period (January 1 to June 30 and July 1 to December 31) thereafter, the permittee shall report to the Department and U.S. EPA, Region 9:

i. The total tons of SO_2 emitted from Puna Generating Station, Boiler, and Kanoelehua Hill Generating Station, Boilers Hill 5 and Hill 6, for the preceding calendar year by month;
ii. The total combined tons of SO_2 emitted from Puna Generating Station, Boiler, and Kanoelehua Hill Generating Station, Boilers Hill 5 and Hill 6, for the preceding calendar year on a monthly and rolling twelve-month (12-month) basis for all units; and
iii. The following enclosed form, or equivalent form, shall be used for reporting and shall be signed and dated by a responsible official:

Monitoring Report Form: Sulfur Dioxide (SO_2) Emissions - Boilers

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-11, §11-60.1-90; 40 CFR §52.633, §63.11196, §63.11223)[2,3]

5. Annual Emissions

As required by Attachment IV, Annual Emissions Reporting Requirements, and in conjunction with the requirements of Attachment III, Annual Fee Requirements, the permittee shall report **annually** the total tons per year emitted of each regulated air pollutant, including hazardous air pollutants. The reporting of annual emissions is due **within sixty (60) days following** the end of each calendar year and shall be signed and dated by a responsible official. The following enclosed form, or equivalent form, shall be used for reporting:

Annual Emissions Report Form: Boilers

Upon the written request of the permittee, the deadline for reporting of annual emissions may be extended, if the Department determines that reasonable justification exists for the extension.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-90)

6. Compliance Certification

During the permit term, the permittee shall submit at least **annually** to the Department and U.S. EPA Region 9, the attached **Compliance Certification Form** pursuant to HAR, Subsection 11-60.1-86. The permittee shall indicate whether compliance is being met with each term or condition of this permit. The compliance certification shall include, at a minimum, the following information:

a. The identification of each term or condition of the permit that is the basis of the certification;
b. The compliance status;
c. Whether compliance was continuous or intermittent;
d. The methods used for determining the compliance status of the source currently and over the reporting period;
e. Any additional information indicating the source's compliance status with any applicable enhanced monitoring and compliance certification, including the requirements of Section 114 (a)(3) of the Clean Air Act or any applicable monitoring and analysis provisions of Section 504 (b) of the Clean Air Act;
f. Brief description of any deviations including identifying as possible exceptions to compliance any periods during which compliance is required and which the excursions or exceedances as defined in 40 CFR 64 occurred; and
g. Any additional information as required by the Department, including information to determine compliance.

The compliance certification shall be submitted **within sixty (60) days** after the end of each calendar year, and shall be signed and dated by a responsible official.

Upon the written request of the permittee, the deadline for submitting the compliance certification may be extended, if the Department determines that reasonable justification exists for the extension.

(Auth.: HAR §11-60.1-4, §11-60.1-86, §11-60.1-90)

7. 5-Year Compliance Certification Report

The permittee shall:

a. Prepare, by March 1 of the year following the calendar year during which a tune-up is completed, the enclosed **5-Year Compliance Certification Report Form: Boiler**. The report shall include a description of deviations, the time periods during which the deviation occurred, and the corrective actions taken;
b. **Submit the report** to the Department or U.S. EPA, Region 9, **upon request**; and
c. Submit the report to the Department and U.S. EPA, Region 9, **by March 15, if there are any deviations** from the applicable requirements of 40 CFR Part 63, Subpart JJJJJJ.

The following enclosed form, or equivalent form, shall be used for reporting:

5-Year Compliance Certification Report Form: Boiler

(Auth.: HAR §11-60.1-4, §11-60.1-86, §11-60.1-90; 40 CFR §63.11225)[2]

8. Alternate Operating Scenarios

   a. The permittee shall submit a written request and receive prior written approval from the Department before firing the boilers on an alternate fuel. The written request shall include, but not limited to the following:

      i. The type of fuel proposed;
      ii. Reason for using the alternate fuel;
      iii. Emission rates for burning the alternate fuel;
      iv. Documentation that burning the alternate fuel will not constitute a major modification subject to PSD review (e.g., an actual-to-potential applicability test; an actual-to-projected-actual applicability test; or documentation establishing that burning the alternate fuel would not involve a physical change or change in method of operation);
      v. Documentation that burning the alternate fuel will not constitute a modification that would require compliance with NSPS or NESHAP requirements that would not otherwise apply; and
      vi. Documentation that burning the alternate fuel will not require compliance with an applicable requirement that is different from those specified in this permit.

      The Department may require an ambient air quality assessment for firing the alternate fuel and/or provide a conditional approval to impose additional monitoring, testing, recordkeeping, and reporting requirements.

   b. For written requests to use fuel additives, the permittee shall, at a minimum, provide the Department the specifications of the fuel additive(s), maximum expected emission rates of any criteria or non-criteria pollutant, certification that corresponding emission rates will not exceed permitted rates, and any other information requested by the Department. The Department may provide a conditional approval to impose additional monitoring, testing, recordkeeping, and reporting requirements to ensure the use of the fuel additive is in compliance with the applicable requirements.

   (Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-90)

9. Used Oil

   The permittee shall submit a written request and receive prior written approval from the Department before accepting used oil from another source pursuant to Attachment IIC, Special Condition No. C.5.d.

   (Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-90)

Section F. Agency Notification

Any document (including reports) required to be submitted by this permit shall be done in accordance with Attachment I, Standard Condition No. 29.

(Auth.: HAR §11-60.1-4, §11-60.1-90)

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[1]The expiration date will be revised upon issuance of the permit renewal for CSP No. 0234-01-C under permit application No. 0234-03.

[2]The citations to the Code of Federal Regulations (CFR), identified under a particular condition, indicate that the permit condition complies with the specified provision(s) of the CFR. Due to the integration of the preconstruction and operating permit requirements, permit conditions may incorporate more stringent requirements than those set forth in the CFR.

[3]The citations to the Regional Haze Federal Implementation Plan (RH-FIP), identified under a particular condition, indicate that the permit condition complies with the specified provisions(s) of the RH-FIP.

[4]The citations to the State Implementation Plan (SIP), identified under a particular condition, indicate that the permit condition complies with the specified provision(s) of the SIP.

ATTACHMENT III: ANNUAL FEE REQUIREMENTS
COVERED SOURCE PERMIT NO. 0234-01-C

Amended Date: June 6, 2018 **Expiration Date: January 17, 2010**
(Expiration Date will be revised Upon Permit Renewal)

The following requirements for the submittal of annual fees are established pursuant to Hawaii Administrative Rules (HAR), Title 11, Chapter 60.1, Air Pollution Control. Should HAR, Chapter 60.1, be revised such that the following requirements are in conflict with the provisions of HAR, Chapter 60.1, the permittee shall comply with the provisions of HAR, Chapter 60.1:

1. Annual fees shall be paid in full:

   a. Within **one hundred and twenty (120) days** after the end of each calendar year; and
   b. Within **thirty (30) days** after the permanent discontinuance of the covered source.

2. The annual fees shall be determined and submitted in accordance with Hawaii Administrative Rules, Chapter 11-60.1, Subchapter 6.

3. The annual emissions data for which the annual fees are based shall accompany the submittal of any annual fees and submitted on forms furnished by the Department of Health.

4. The annual fees and the emission data shall be mailed to:

State of Hawaii
Clean Air Branch
2827 Waimano Home Road #130
Pearl City, HI 96782

ANNUAL EMISSIONS REPORT FORM
BOILERS
COVERED SOURCE PERMIT NO. 0234-01-C

Amended Date: June 6, 2018

Expiration Date: January 17, 2010
(Expiration Date will be Revised Upon Permit Renewal)

In accordance with the Hawaii Administrative Rules, Title 11, Chapter 60.1, Air Pollution Control, the permittee shall report to the Department of Health the nature and amounts of emissions.

(Make Copies for Future Use)

For Period: _____ Date: _____

Facility Name: _____

Company Name: _____

Equipment Description: _____

I certify that I have knowledge of the facts herein set forth, that the same are true, accurate and complete to the best of my knowledge and belief, and that all information not identified by me as confidential in nature shall be treated by Department of Health as public record.

Responsible Official (Print): _____

Title: _____

Responsible Official (Signature): _____

Report the total fuel consumption and maximum sulfur content for each type of fuel fired by the boilers during the calendar year:

BOILER HILL 5			
Capacity	Fuel Type	Fuel Use (gallons per year)	Maximum Sulfur Content
14.1 MW			

BOILER HILL 6			
Capacity	Fuel Type	Fuel Use (gallons per year)	Maximum Sulfur Content
23 MW			

MONITORING REPORT FORM
FUEL CERTIFICATION
COVERED SOURCE PERMIT NO. 0234-01-C

Amended Date: June 6, 2018 | **Expiration Date: January 17, 2010**
(Expiration Date will be Revised Upon Permit Renewal)

In accordance with the Hawaii Administrative Rules, Title 11, Chapter 60.1, Air Pollution Control, the permittee shall report to the Department of Health the following information semi-annually.

(Make Copies for Future Use)

For Period: ______________________________ Date: ______________

Facility Name: ______________________________

Company Name: ______________________________

I certify that I have knowledge of the facts herein set forth, that the same are true, accurate and complete to the best of my knowledge and belief, and that all information not identified by me as confidential in nature shall be treated by Department of Health as public record.

Responsible Official (Print): ______________________________

Title: ______________________________

Responsible Official (Signature): ______________________________

Report the type of fuel and maximum sulfur content of fuels fired for the reporting period:

Equipment Description	Type of Fuel Fired	Maximum Sulfur Content (% by weight)	Minimum Cetane Index[a]	Maximum Aromatic Content (Volume %)[a]

[a] Applicable only to the Diesel Engine Generators

MONITORING REPORT FORM
SPECIFICATION USED OIL – BOILERS
COVERED SOURCE PERMIT NO. 0234-01-C
(PAGE 1 OF 2)

Amended Date: June 6, 2018

Expiration Date: January 17, 2010
Expiration Date will be Revised Upon Permit Renewal)

In accordance with the Hawaii Administrative Rules, Title 11, Chapter 60.1, Air Pollution Control, the permittee shall report to the Department of Health the following information semi-annually.

(Make Copies for Future Use)

For Period: _____ Date: _____

Facility Name: _____

Company Name: _____

Equipment Description: _____

I certify that I have knowledge of the facts herein set forth, that the same are true, accurate, and complete to the best of my knowledge and belief, and that all information not identified by me as confidential in nature shall be treated by Department of Health as public record.

Responsible Official (Print): _____

Title: _____

Responsible Official (Signature): _____

1. Report the total combined specification used oil consumption for the boilers for the reporting period:

BOILERS HILL 5 and HILL 6		
Month	Total Combined Specification Used Oil Consumption (gallons)	
	Monthly Basis	12-Month Rolling Basis
January		
February		
March		
April		
May		
June		
July		
August		
September		
October		
November		
December		

MONITORING REPORT FORM
SPECIFICATION USED OIL – BOILERS
COVERED SOURCE PERMIT NO. 0234-01-C
(CONTINUED, PAGE 2 OF 2)

Amended Date: June 6, 2018

Expiration Date: January 17, 2010
(Expiration Date will be Revised Upon Permit Renewal)

2. Report the maximum pollutant concentrations of the specification used oil analyzed during the reporting period:

Pollutant	Maximum Concentration (ppm)	Number of Exceedances	Notes
Arsenic			
Cadmium			
Chromium			
Lead			
Total Halogens			
Sulfur			
PCBs			

3. Report the minimum flash point in °F for the specification used oil analyzed during the reporting period: _____

MONITORING REPORT FORM
SULFUR DIOXIDE (SO_2) EMISSIONS – BOILERS
COVERED SOURCE PERMIT NO. 0234-01-C

Amended Date: **June 6, 2018**

Expiration Date: **January 17, 2010**
(Expiration Date will be Revised Upon Permit Renewal)

In accordance with the Hawaii Administrative Rules, Title 11, Chapter 60.1, Air Pollution Control, the permittee shall report to the Department of Health and U.S. EPA the following information semi-annually.

(Make Copies for Future Use)

For Period: _____ Date: _____

Facility Name: _____

Company Name: _____

Equipment Description: _____

I certify that I have knowledge of the facts herein set forth, that the same are true, accurate and complete to the best of my knowledge and belief, and that all information not identified by me as confidential in nature shall be treated by Department of Health as public record.

Responsible Official (Print): _____

Title: _____

Responsible Official (Signature): _____

Report the SO_2 emissions for the boilers for the reporting period:

Month	Sulfur Dioxide Emissions (tons)				
	SO_2 on Monthly Basis			Total Combined SO_2	
	Hill 5	Hill 6	Puna Boiler	Monthly	12-Month Rolling Basis
January					
February					
March					
April					
May					
June					
July					
August					
September					
October					
November					
December					

MONITORING REPORT FORM
BOILER TUNE-UP
COVERED SOURCE PERMIT NO. 0234-01-C
(PAGE 1 OF 2)

Amended Date: June 6, 2018

Expiration Date: January 17, 2010
(Expiration Date will be Revised Upon Permit Renewal)

In accordance with the Hawaii Administrative Rules, Title 11, Chapter 60.1, Air Pollution Control, the permittee shall report to the Department of Health the following information within sixty (60) days after each boiler tune-up.

(Make Copies for Future Use)

For Period: _____ Date: _____

Facility Name: _____

Company Name: _____

Equipment Description: _____

I certify that I have knowledge of the facts herein set forth, that the same are true, accurate and complete to the best of my knowledge and belief, and that all information not identified by me as confidential in nature shall be treated by Department of Health as public record.

Responsible Official (Print): _____

Title: _____

Responsible Official (Signature): _____

1. Report the CO concentrations in the effluent stream in ppm, by volume, and oxygen in volume percent before and after the tune-up of the boiler:

Boiler Before Tune-Up	
CO Concentration (ppm by Volume)	Oxygen (Volume Percent)
Boiler After Tune-Up	
CO Concentration (ppm by volume)	Oxygen (volume percent)

2. Report the corrective actions taken as part of the boiler tune-up for the reporting period:

Corrective Action Description

MONITORING REPORT FORM
BOILER TUNE-UP
COVERED SOURCE PERMIT NO. 0234-01-C
(CONTINUED, PAGE 2 OF 2)

Amended Date: June 6, 2018

Expiration Date: January 17, 2010
(Expiration Date will be Revised Upon Permit Renewal)

3. Report the type and amount of fuel used over the twelve (12) month period prior to the tune-up of the boiler, but only if the unit was physically and legally capable of using more than one (1) type of fuel during that period:

Types of Fuel Fired	Period of Consumption	Total Fuel Consumption	Units of Measure

4. Report the type of fuel fired in the boiler during the tune-up:

_____

5-YEAR COMPLIANCE CERTIFICATION REPORT FORM
BOILER
COVERED SOURCE PERMIT NO. 0234-01-C

Amended Date: June 6, 2018 **Expiration Date: January 17, 2010**
(Expiration Date will be Revised Upon Permit Renewal)

In accordance with the Hawaii Administrative Rules, Title 11, Chapter 60.1, Air Pollution Control, and 40 Code of Federal Regulations, NESHAPS Part 63, Subpart JJJJJJ, the permittee shall complete and submit this report at the frequency identified in Attachment IIC, Special Condition No. E.7.

(Make Copies for Future Use)

For Period: _____ Date: _____

Company Name: _____

Facility Name: _____

I certify that I have knowledge of the facts herein set forth, that the same are true, accurate, and complete to the best of my knowledge and belief, and that all information not identified by me as confidential in nature shall be treated by the Department of Health as public record.

Responsible Official (Print): _____

Title: _____ Phone Number: _____

E-Mail Address: _____

Address: _____

Responsible Official (Signature): _____

Complete this form for each boiler.

1. Identify any deviations with all relevant standards and other requirements of 40 CFR Part 63, Subpart JJJJJJ, a description of the deviations, the time periods during which the deviations occurred, and corrective actions taken:

Description of Deviation	Date(s) of Deviation		Corrective Action Taken
	from	to	

2. "This facility complies with the requirements of 40 CFR §63.11223 to conduct a five (5) year tune-up, as applicable, of the boiler." Yes _____ No _____

3. Date of most recent boiler tune-up: _____

VISIBLE EMISSIONS FORM REQUIREMENTS
STATE OF HAWAII
COVERED SOURCE PERMIT NO. 0234-01-C

Amended Date: June 6, 2018

Expiration Date: January 17, 2010
(Expiration Date will be Revised Upon Permit Renewal)

The ***Visible Emissions (VE) Form,*** *or equivalent form,* shall be completed **monthly** (*each calendar month*) for each equipment subject to opacity limits in accordance with 40 CFR Part 60, Appendix A, Method 9, or U.S. EPA approved equivalent methods, or alternative methods with prior approval from the Department of Health. The VE Form shall be completed as follows:

1. VE observations shall take place during the day only. The opacity shall be noted in five (5) percent increments (e.g., 25%).

2. Orient the sun within a one hundred forty (140) degree sector to your back. Provide a source layout sketch on the VE Form using the symbols as shown.

3. For VE observations of stacks, stand at least three (3) stack heights but not more than a quarter mile from the stack.

4. For VE observations of fugitive emissions from crushing and screening plants, stand at least 4.57 meters (15 feet) from the visible emissions source, but not more than a quarter mile from the visible emission source.

5. Two (2) consecutive six (6) minute observations shall be taken at fifteen (15) second intervals for each stack or emission point.

6. The six (6) minute average opacity reading shall be calculated for each observation.

7. If possible, the observations shall be performed as follows:

    a. Read from where the line of sight is at right angles to the wind direction.
    b. The line of sight shall not include more than one (1) plume at a time.
    c. Read at the point in the plume with the greatest opacity (without condensed water vapor), ideally while the plume is no wider than the stack diameter.
    d. Read the plume at fifteen (15) second intervals only. Do not read continuously.
    e. The equipment shall be operating at the maximum permitted capacity.

8. If the equipment was shut-down for that period, briefly explain the reason for shut-down in the comment column.

The permittee shall retain the completed VE Forms for recordkeeping. These records shall be in a permanent form suitable for inspection, retained for a minimum of five (5) years, and made available to the Department of Health, or their representative upon request.

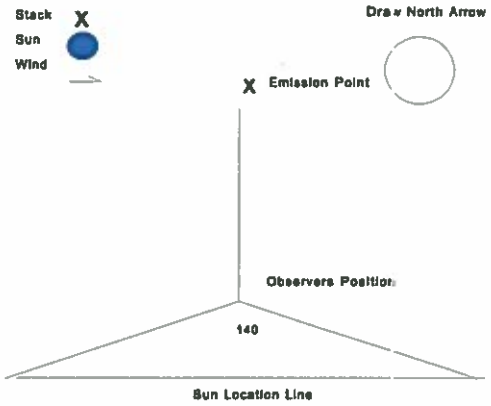
Any required initial and annual performance test performed in accordance with Method 9 by a certified reader shall satisfy the respective equipment's VE monitoring requirements for the month the performance test is performed.

VISIBLE EMISSIONS FORM
COVERED SOURCE PERMIT NO. 0234-01-C

Amended Date: June 6, 2018 **Expiration Date: January 17, 2010**
(Expiration Date will be Revised Upon Permit Renewal)

(Make Copies for Future Use for Each Stack or Emission Point)

Company Name:_____
For stacks, describe equipment and fuel:_____
For fugitive emissions from crushers and screens, describe:
Fugitive emission point:_____
Plant Production (tons/hr):_____
(During observation)



Site Conditions:
Emission point or stack height above ground (ft):_____
Emission point or stack distance from observer (ft):_____
Emission color (black or white):_____
Plume background (objects and/or color):_____
Sky conditions (% cloud cover):_____
Wind speed (mph):_____
Temperature (°F):_____
Observer Name:_____
Certified? (Yes/No):_____

Observation Date and Start Time:_____

	Seconds				
MINUTES	0	15	30	45	COMMENTS
1					
2					
3					
4					
5					
6					
Six (6) Minute Average Opacity Reading (%):					

Observation Date and Start Time:_____

	Seconds				
MINUTES	0	15	30	45	COMMENTS
1					
2					
3					
4					
5					
6					
Six (6) Minute Average Opacity Reading (%):					

COMPLIANCE CERTIFICATION FORM
COVERED SOURCE PERMIT NO. 0234-01-C
(PAGE 1 OF ___)

Issuance Date: June 6, 2018

Expiration Date: January 17, 2010
(Expiration Date will be Revised Upon Permit Renewal)

In accordance with the Hawaii Administrative Rules, Title 11, Chapter 60.1, Air Pollution Control, the permittee shall report to the Department of Health the following certification at least annually, or more frequently as requested by the Department.

(Make Copies of the Compliance Certification Form for Future Use)

For Period: _____ Date: _____

Company/Facility Name: _____

Responsible Official (Print): _____

Title: _____

Responsible Official (Signature): _____

I certify that I have knowledge of the facts herein set forth, that the same are true, accurate and complete to the best of my knowledge and belief, and that all information not identified by me as confidential in nature shall be treated by Department of Health as public record. I further state that I will assume responsibility for the construction, modification, or operation of the source in accordance with the Hawaii Administrative Rules, Title 11, Chapter 60.1, Air Pollution Control, and any permit issued thereof.

COMPLIANCE CERTIFICATION FORM
COVERED SOURCE PERMIT NO. 0234-01-C
(CONTINUED, PAGE 2 OF ___)

Issuance Date: June 6, 2018

Expiration Date: January 17, 2010
(Expiration Date will be Revised Upon Permit Renewal)

The purpose of this form is to evaluate whether or not the facility was in compliance with the permit terms and conditions during the covered period. If there were any deviations to the permit terms and conditions during the covered period, the deviation(s) shall be certified as *intermittent compliance* for the particular permit term(s) or condition(s). Deviations include failure to monitor, record, report, or collect the minimum data required by the permit to show compliance. In the absence of any deviation, the particular permit term(s) or condition(s) may be certified as *continuous compliance*.

Instructions:
Please certify Sections A, B, and C below for continuous or intermittent compliance. Sections A and B are to be certified as a group of permit conditions. Section C shall be certified individually for each operational and emissions limit condition as listed in the Special Conditions section of the permit (list all applicable equipment for each condition). Any deviations shall also be listed individually and described in Section D. The facility may substitute its own generated form in verbatim for Sections C and D.

A. Attachment I, Standard Conditions

Permit term/condition	Equipment	Compliance
All standard conditions	All Equipment listed in the permit	☐ Continuous ☐ Intermittent

B. Special Conditions - Monitoring, Recordkeeping, Reporting, Testing, and INSIG

Permit term/condition	Equipment	Compliance
All monitoring conditions	All Equipment listed in the permit	☐ Continuous ☐ Intermittent
All recordkeeping conditions	All Equipment listed in the permit	☐ Continuous ☐ Intermittent
All reporting conditions	All Equipment listed in the permit	☐ Continuous ☐ Intermittent
All testing conditions	All Equipment listed in the permit	☐ Continuous ☐ Intermittent
All INSIG conditions	All Equipment listed in the permit	☐ Continuous ☐ Intermittent

COMPLIANCE CERTIFICATION FORM
COVERED SOURCE PERMIT NO. 0234-01-C
(CONTINUED, PAGE ___ OF ___)

Amended Date: June 6, 2018 **Expiration Date: January 17, 2010**
(Expiration Date will be Revised Upon Permit Renewal)

(Make Additional Copies if Needed)

C. Special Conditions - Operational and Emissions Limitations

Each permit term/condition shall be identified in chronological order using attachment and section numbers (e.g., Attachment II, B.1, Attachment IIA, Special Condition No. B.1.f, etc.). Each piece of equipment shall be identified using the description stated in Section A of the Special Conditions (e.g., unit no., model no., serial no., etc.). Check all methods (as required by permit) used to determine the compliance status of the respective permit term/condition.

Permit term/condition	Equipment	Method	Compliance
		☐ monitoring ☐ recordkeeping ☐ reporting ☐ testing ☐ none of the above	☐ Continuous ☐ Intermittent
		☐ monitoring ☐ recordkeeping ☐ reporting ☐ testing ☐ none of the above	☐ Continuous ☐ Intermittent
		☐ monitoring ☐ recordkeeping ☐ reporting ☐ testing ☐ none of the above	☐ Continuous ☐ Intermittent
		☐ monitoring ☐ recordkeeping ☐ reporting ☐ testing ☐ none of the above	☐ Continuous ☐ Intermittent
		☐ monitoring ☐ recordkeeping ☐ reporting ☐ testing ☐ none of the above	☐ Continuous ☐ Intermittent
		☐ monitoring ☐ recordkeeping ☐ reporting ☐ testing ☐ none of the above	☐ Continuous ☐ Intermittent

COMPLIANCE CERTIFICATION FORM
COVERED SOURCE PERMIT NO. 0234-01-C
(CONTINUED, PAGE ___ OF ___)

Amended Date: June 6, 2018

Expiration Date: January 17, 2010
(Expiration Date will be Revised Upon Permit Renewal)

(Make Additional Copies if Needed)

D. Deviations

Permit Term/ Condition	Equipment / Brief Summary of Deviation	Deviation Period time (am/pm) & date (mo/day/yr)	Date of Written Deviation Report to DOH (mo/day/yr)
		Beginning: Ending:	
		Beginning: Ending:	
		Beginning: Ending:	
		Beginning: Ending:	
		Beginning: Ending:	
		Beginning: Ending:	
		Beginning: Ending:	

*Identify as possible exceptions to compliance any periods during which compliance is required and in which an excursion or exceedance as defined under 40 CFR 64 occurred.

Permit Application Review Summary

Application No.:	Significant Permit Modification Application No. 0234-04
Permit No.:	Covered Source Permit No. 0234-01-C
Applicant:	Hawaii Electric Light Company, Inc. (HELCO)
Facility:	Kanoelehua Hill Generating Station Located At: Hilo, Hawaii UTM Coordinates: 284,300 Meters East and 2,179,800 Meters North, Zone 5, Old Hawaiian
Mailing Address:	Hawaii Electric Light Company, Inc. P. O. Box 1027 Hilo, Hawaii 96721-1027
Responsible Official:	Norman M. Uchida Manager, Production Department HELCO (808) 969-0422
Point of Contract:	Anthony Koyamatsu Manager, Environmental Department Hawaiian Electric Company (808) 969-0422
Point of Contact:	Sharon Peterson Senior Environmental Scientist Hawaiian Electric Company, Inc. (808) 543-4401
Application Date:	November 2017

Proposed Project:

The Standard Industrial Classification Code (SICC) for this facility is 4911 - Electric Services.

Kanoelehua Hill Generating Station produces electrical power through the combustion of fossil fuels. The station houses two boilers, one combustion turbine, and four (4) diesel engine generators. Six (6) fixed roof petroleum storage tanks supply fuel for generating electricity. Ultralow sulfur diesel (ULSD) fuel oil No. 2 is used for operating the diesel engine generators (DEGs) with maximum sulfur content of 0.0015%. The combustion turbine (CT) burns fuel oil No. 2 with maximum 0.4% sulfur content. Fuel oil Nos. 2 and 6 and specification used oil are used for operating the two boilers with maximum allowable sulfur content of 2.0%.

The significant modification application consists of amending the permit to incorporate requirements specified for the boilers in Hawaii's Regional Haze Federal Implementation Plan (RH-FIP) and National Emissions Standards for Hazardous Air Pollutants (NESHAP) for area source boilers. The amendment will also update the fuel, opacity/visible emission, compliance certification, annual emissions, and annual fee requirements.

Pursuant to Hawaii's RH-FIP, the amendment incorporates a 3,550 ton per year sulfur dioxide (SO_2) emissions cap on the sum of the total emissions from five (5) boilers at three (3) HELCO power plants on the island of Hawaii. This limit will be incorporated into each facility's permit to ensure reasonable progress for improving visibility in mandatory Class I areas. Hawaii's two mandatory Class I Areas are Haleakala National Park on Maui and Hawaii Volcanoes National Park on the Big Island (Hawaii). Affected units are Kanoelehua Hill Generating Station, Boilers Hill 5 and Hill 6; Puna Power Plant, Boiler 1; and Shipman Power Plant, Boilers S-3 and S-4. Since the Shipman Generating Station closed, the cap applies only to boilers at the Kanoelehua Hill and Puna facilities.

Kanoelehua Hill Generating Station, Boilers Hill 5 and Hill 6, are also subject to 40 CFR Part 63, NESHAP, Subpart JJJJJJ. Primary provisions for this NESHAP are 5-year boiler tune-ups. Since an energy assessment and initial tune up was performed for the boilers, the following requirements no longer apply:

1. A one-time energy assessment performed by a qualified energy assessor pursuant to 40 CFR §63.11201; and
2. The initial notification required by July 19, 2014 in accordance with 40 CFR §63.11225 that: "This facility complies with the requirements of 40 CFR §63.11214 to conduct an initial tune-up of the boiler", and "This facility has had an energy assessment performed according to 40 CFR §63.11214(c)." HELCO submitted documentation on the initial boiler tune-up and energy assessment in July 2012 and February 2014, respectively.

An application fee of $1000.00 for a Significant Modification to a Major Covered Source was submitted and processed.

Equipment:

Unit	Description
Hill 5	14.1 MW Combustion Engineering Boiler, Model No. VU 60;
Hill 6	23 MW Combustion Engineering Boiler, Model No. VU 60;
CT-1	11.6 MW General Electric Combustion Turbine, Model No. MS5001D;
D-11	2.0 MW Fairbanks Morse Diesel Engine Generator;
D-15	2.75 MW General Motors Diesel Engine Generator, Model No. EMD 20-645;
D-16	2.75 MW General Motors Diesel Engine Generator, Model No. EMD 20-645; and
D-17	2.75 MW General Motors Diesel Engine Generator, Model No. EMD 20-645.

Air Pollution Controls:

DEGs D-11, D-15, D-16, and D-17 are equipped with a diesel oxidation catalyst to control carbon monoxide (CO) emissions. The diesel oxidation catalyst is a requirement to comply with 40 CFR Part 63 NESHAP for Stationary Reciprocating Internal Combustion Engines (RICE), Subpart ZZZZ. As indicated in the permit application for a significant modification, the diesel oxidation catalyst will reduce CO emissions by at least 70% or limit CO emissions to 23 parts per million dry volume (ppmvd) at 15% O_2. Federal RICE regulations require the use of ULSD in accordance with 40 CFR §80.510(c). Requirements from the RICE NESHAP are being incorporated into the permit renewal for this facility.

Applicable Requirements:

Hawaii Administrative Rules (HAR)

Title 11, Chapter 11-59	Ambient Air Quality Standards
Title 11, Chapter 11-60.1	Air Pollution Control
Subchapter 1	General Requirements
Subchapter 2	General Prohibitions
11-60.1-31	Applicability
11-60.1-32	Opacity Requirements
11-60.1-38	Sulfur Oxides from Fuel Combustion
Subchapter 5	Covered Sources
Subchapter 6	Fees for Covered Sources, Noncovered Sources, and Agricultural Burning
11-60.1-111	Definitions
11-60.1-112	General Fee Provisions for Covered Sources
11-60.1-113	Application Fees for Covered Sources
11-60.1-114	Annual Fees for Covered Sources
Subchapter 9	Hazardous Air Pollutants Sources
11-60.1-174	Maximum Achievable Control Technology (MACT) Emission Sources
Subchapter 11	Greenhouse Gas Emissions

Federal Requirements

40 CFR Part 52 - Approval and Promulgation of Implementation Plans; State of Hawaii; Regional Haze Federal Implementation Plan; Subpart M - Hawaii, §52.633, Visibility Protection. The Regional Haze Federal Implementation Plan (RH-FIP) was issued for the State of Hawaii on October 9, 2012. Hawaii's RH-FIP specifies a total SO_2 emissions cap for fuel oil-fired boilers at the Hill, Shipman, and Puna plants of 3,550 tons per rolling twelve-month (12-month) period. Compliance with the emissions cap is required at all times on and after December 31, 2018.

40 CFR Part 63, National Emission Standards for Hazardous Air Pollutants for Source Categories, Subpart JJJJJJ, NESHAP for Area Sources: Industrial, Commercial, and Institutional Boilers Area Sources is applicable to Boilers Hill 5 and Hill 6. As indicated on Page 7-1 of HELCO's energy assessment, boilers Hill 5 and Hill 6 are equipped with oxygen trim systems that continuously measure the amount of free oxygen in the boiler combustion air, and then adjusts the amount of air into the combustion chamber for optimum performance. Since the units use oxygen trim systems, the boilers are subject to 5-year tune-ups instead of biennial tune-ups.

Non-Applicable Requirements:

Hawaii Administrative Rules (HAR)

Title 11, Chapter 11-60.1 Air Pollution Control
- Subchapter 3 Open Burning
- Subchapter 4 Noncovered Sources
- Subchapter 7 Prevention of Significant Deterioration Review
- Subchapter 8 Standards of Performance for Stationary Sources (NSPS)
- Subchapter 9 Hazardous Air Pollutants Sources
  - 11-60.1-180 National Emission Standards for Hazardous Air Pollutants

Federal Requirements

40 CFR Part 52.21 - Prevention of Significant Deterioration of Air Quality
40 CFR Part 60 – Standards of Performance for New Stationary Sources (NSPS)
40 CFR Part 61 - National Emission Standard for Hazardous Air Pollutants (NESHAPS)

Alternate Operating Scenarios:

Updated alternate operating scenario in Attachment IIC, Special Condition No. C.6.a, for burning alternate fuels to be consistent with other permits recently issued.

Incorporated provisions specified in Attachment IIC, Special Condition No. B.1 for using fuel additives as an alternate operating scenario. Made alternate operating scenario for fuel additives in Attachment IIC, Special Condition No. C.6.b, consistent with most recently issued permits.

Insignificant Activities/Exemptions:

No change from renewal application no. 0234-02.

Air Emissions Reporting Requirements (AERR):

40 CFR Part 51, Subpart A – Air Emissions Reporting Requirements, is based on the emissions of criteria air pollutants from point sources (as defined in 40 CFR Part 51, Subpart A), that emit at the AERR triggering levels as shown in the table below:

Pollutant	Potential Emissions (TPY)	AERR Triggering Levels[1] (TPY)		Pollutant	In-house Total Facility Triggering Levels[1] (TPY)
		1 Year Cycle (Type A)	3 Year Cycle (Type B)		
NO_X	3,556	≥2,500	100	NO_X	≥25
SO_2	3,872	≥2,500	100	SO_2	≥25
CO	433	≥2,500	1,000	CO	≥250
$PM_{10}/PM_{2.5}$	800	≥250/250	100	$PM_{10}/PM_{2.5}$	≥25/25
VOC	139	≥250	100	VOC	≥25
Pb	0.037	---	≥0.5 (actual)	Pb	≥5
HAPs	5.09	---	---	HAPs	≥5

[1] Based on potential emissions, except for lead.

This facility exceeds Type A triggering levels. Therefore, AERR requirements are applicable.

The Clean Air Branch also requests annual emissions reporting from those facilities that have

facility-wide emissions of a single air pollutant exceeding in-house triggering levels or is a covered source. Annual emissions reporting for the facility will be required for in-house recordkeeping purposes since this is a covered source.

Compliance Assurance Monitoring (CAM):

No change from permit renewal application No. 0234-02.

Synthetic Minor Source:

Synthetic Minor is a facility with operational limitations in order to keep potential emissions lower than major source levels (≥100 tons per year of criteria pollutants or ≥10 tons per year of individual or 25 tons per year of a combination of HAPs). This facility is a major source and therefore is not a synthetic minor source.

Prevention of Significant Deterioration (PSD):

A PSD major modification is defined as a project at an existing major stationary source that will result in a significant emissions increase and a significant net emissions increase of any pollutant subject to regulations approved pursuant to the Clean Air Act as defined in 40 CFR §52.21. Since there are no significant emission increases for this modification, PSD is not triggered.

Best Available Control Technology (BACT):

A BACT analysis is applicable only to new covered sources and significant modifications to covered sources that have the potential to emit or an emissions increase above significant levels as defined in HAR §11-60.1-1. A BACT analysis is not applicable since there are no significant emission increases for this modification.

Major Source/Synthetic Minor Source Applicability:

This facility is classified as a major source.

Project Emissions:

Emissions of nitrogen oxides (NO_X), CO, volatile organic compounds (VOCs), particulate matter (PM), particulate matter less than 10 microns in diameter (PM_{10}), particulate matter less than 2.5 microns in diameter ($PM_{2.5}$), sulfur dioxide (SO_2), and hazardous air pollutants (HAPs) were evaluated. Emissions of NO_X, CO, VOC, PM/PM_{10}, SO_2, and HAP were based on the maximum capacity of the equipment and 8,760 hours per year of operation. It was assumed, conservatively, that PM_{10} is equal to $PM_{2.5}$. A mass balance calculation was used to determine SO_2 emissions based on the maximum allowable fuel sulfur content, the maximum heat rate input for the equipment, and fuel heating values for fuel oil No. 2, fuel oil No. 6, and ultra-low sulfur diesel.

NO_X Emissions					
Unit	**AP-42 EF (lb/MMBtu)**	**Assumed EF (lb/MMBtu)**	**Heat Input (MMBtu/hr)**	**Emission Rate (lb/hr)**	**Emission Rate (TPY)**
Hill 5	0.313	0.7008	197	138.06	605
Hill 6	0.313	0.4740	249	118.03	517
CT-1	0.88	0.8800	177.2	155.94	683
D-11	3.2	3.7198	20.2	75.14	329
D-15	3.2	3.7198	29.1	108.25	474
D-16	3.2	3.7198	29.1	108.25	474
D-17	3.2	3.7198	29.1	108.25	474
				Total→	3,556

CO Emissions					
Unit	**AP-42 EF (lb/MMBtu)**	**Assumed EF (lb/MMBtu)**	**Heat Input (MMBtu/hr)**	**Emission Rate (lb/hr)**	**Emission Rate (TPY)**
Hill 5	0.033	0.0662	197	13	57
Hill 6	0.033	0.0662	249	16	72
CT-1	0.0033	0.0960	177.2	17	75
D-11	0.26	0.4859	20.2	10	43
D-15	0.26	0.4860	29.1	14	62
D-16	0.26	0.4860	29.1	14	62
D-17	0.26	0.4860	29.1	14	62
				Total→	433

VOC Emissions					
Unit	**AP-42 EF (lb/MMBtu)**	**Assumed EF (lb/MMBtu)**	**Heat Input (MMBtu/hr)**	**Emission Rate (lb/hr)**	**Emission Rate (TPY)**
Hill 5	0.00507	0.01005	197	1.98	9
Hill 6	0.00507	0.01005	249	2.50	11
CT-1	0.00041	0.03397	177.2	6.02	26
D-11	0.082	0.20000	20.2	4.04	18
D-15	0.082	0.20000	29.1	5.82	25
D-16	0.082	0.20000	29.1	5.82	25
D-17	0.082	0.20000	29.1	5.82	25
				Total→	139

$PM/PM_{10}/PM_{2.5}$ Emissions					
Unit	**AP-42 EF (lb/MMBtu)**	**Assumed EF (lb/MMBtu)**	**Heat Input (MMBtu/hr)**	**Emission Rate (lb/hr)**	**Emission Rate (TPY)**
Hill 5	0.144	0.292	197	57.45	252
Hill 6	0.144	0.403	249	100.40	440
CT-1	0.012	0.0732	177.2	12.97	57
D-11	0.0763	0.1678	20.2	3.39	15
D-15	0.0763	0.0914	29.1	2.66	12
D-16	0.0763	0.0914	29.1	2.66	12
D-17	0.0763	0.0914	29.1	2.66	12
				Total→	800

SO_2 Emissions						
Unit	AP-42 EF (lb/MMBtu)	Mass Balance EF (lb/MMBtu)	Heat Input (MMBtu/hr)	Emission Rate (lb/hr)	Emission Rate (TPY)	
					No SO_2 CAP	SO_2 CAP
Hill 5[a,b]	N/A	2.2005	197	433.50	1,899	3,550
Hill 6[a,b]	N/A	2.2005	249	547.92	2,400	
CT-1[c]	N/A	0.4130	177.2	73.18	321	321
D-11[d]	N/A	0.0015	20.2	0.03	0.13	0.13
D-15[d]	N/A	0.0015	29.1	0.04	0.18	0.18
D-16[d]	N/A	0.0015	29.1	0.04	0.18	0.18
D-17[d]	N/A	0.0015	29.1	0.04	0.18	0.18
				Total→	4,621	3,872

Note:

a. Heat content of fuel oil No. 6 was assumed to be 18,161 Btu/lb with maximum allowable sulfur content of 2%.
b. Kanoelehua Hill Generating Station, Boilers Hill 5 and Hill 6, combined with Puna Generating Station, Boiler Unit 1, shall not emit or cause to be emitted SO_2 in excess of 3,550 tons per year, calculated as the sum of total SO_2 emissions for all three (3) units over a rolling twelve-month (12-month) period.
c. Heat content of fuel oil No. 2 was assumed to be 19,372 Btu/lb with maximum allowable sulfur content of 0.4%.
d. Heat content of ultra-low sulfur diesel was assumed to be 19,858 Btu/lb with maximum allowable sulfur content of 0.0015%.

HAP Emissions									
HAP	Emissions (TPY)								
	CT-1	Hill 5	Hill 6	D-11	D15	D-16	D-17	Spec Oil	Total
Acetaldehyde	1.96E-02			2.23E-03	3.21E-03	3.21E-03	3.21E-03		3.14E-02
Acrolein	6.12E-03			6.97E-04	1.00E-03	1.00E-03	1.00E-03		9.83E-03
1,3 Butadiene	1.24E-02			1.42E-03	2.04E-03	2.04E-03	2.04E-03		
Benzene	4.27E-02	1.23E-03	1.56E-03	6.87E-02	9.89E-02	9.89E-02	9.89E-02		4.11E-01
Ethylbenzene		3.66E-04	4.62E-04						8.28E-04
Formaldehyde	2.17E-01	3.51E-01	4.44E-01	6.98E-03	1.01E-02	1.01E-02	1.01E-02		1.05
HCL								1.32E-02	1.32E-02
Naphthalene	2.72E-02	6.50E-03	8.22E-03	1.15E-02	1.66E-02	1.66E-02	1.66E-02		1.03E-01
Phosphorus		5.44E-02	6.88E-02						1.23E-01
Toluene	2.18E-01	3.57E-02	4.51E-02	2.49E-02	3.58E-02	3.58E-02	3.58E-02		4.31E-01
Xylene	1.50E-01	6.27E-04	7.93E-04	1.71E-02	2.46E-02	2.46E-02	2.46E-02		2.42E-01
Antimony Compounds		3.02E-02	3.82E-02						6.84E-02
Arsenic Compounds	8.54E-03	7.59E-03	9.60E-03	9.73E-04	1.40E-03	1.40E-03	1.40E-03	4.40E-02	7.49E-02
Beryllium Compounds	2.41E-04	1.60E-04	2.02E-04	2.74E-05	3.95E-05	3.95E-05	3.95E-05		7.49E-04
Cadmium Compounds	3.73E-03	2.29E-03	2.89E-03	4.25E-04	6.12E-04	6.12E-04	6.12E-04	3.72E-03	1.49E-02
Chromium Compounds	8.54E-03	4.86E-03	6.14E-03	9.73E-04	1.40E-03	1.40E-03	1.40E-03	8.00E-03	3.27E-02
Cobalt Compounds		3.46E-02	4.38E-02					8.40E-05	7.85E-02
Lead Compounds	1.09E-02	8.69E-03	1.10E-02	1.24E-03	1.78E-03	1.78E-03	1.78E-03		3.71E-02
Manganese Compounds	6.13E-01	1.73E-02	2.18E-02	6.99E-02	1.01E-01	1.01E-01	1.01E-01	2.72E-02	1.05
Mercury Compounds	9.31E-04	6.65E-04	8.22E-04	1.06E-04	1.53E-04	1.53E-04	1.53E-04		2.97E-03
Nickel Compounds	3.57E-03	4.86E-01	6.14E-01	4.07E-04	5.86E-04	5.86E-04	5.86E-04	4.40E-03	1.11
Polycyclic Organic Matter	3.10E-02	7.48E-03	9.45E-03	1.88E-02	2.70E-02	2.70E-02	2.70E-02		1.48E-01
Selenium Compounds	1.94E-02	3.93E-03	4.97E-03	2.21E-03	3.19E-03	3.19E-03	3.19E-03		4.01E-02
Total	1.39	1.05	1.33	0.228	0.329	0.329	0.329	0.101	5.09

Greenhouse Gas Emissions			
GHG	GWP	GHG Mass-Based Emissions (TPY)	CO_2e Based Emissions (TPY)
Carbon Dioxide (CO_2)	1	529,888	529,888
Methane (CH_4)	25	21.167	529
Nitrous Oxide (N_2O)	298	4.235	1,261
		Total Emissions→	**531,678**

Emissions are provided in Enclosure (1) on Page 9 of this review.

Ambient Air Quality Impact Assessment (AAQIA):

Since this is an existing covered source with no emission increases proposed, a new AAQIA is not required.

Significant Permit Conditions:

Added Attachment IIC, Special Condition No. C.2

2. Regional Haze - SO_2 Emissions Cap

    a. Kanoelehua Hill Generating Station, Boilers Hill 5 and Hill 6, combined with Puna Generating Station, Boiler, shall not emit or cause to be emitted SO_2 in excess of 3,550 tons per year, calculated as the sum of total SO_2 emissions for all three (3) units over a rolling twelve-month (12-month) period.
    b. Compliance with the SO_2 emissions cap specified in Attachment IIC, Special Condition No. C.2.a is required at all times **on and after December 31, 2018.**

Reason: Regional haze conditions are added to comply with the requirements of 40 CFR Part 52, Subpart M.

Added Attachment IIC, Special Condition No. C.4

4. Boiler Tune-ups and Operation

    a. The Boilers shall be properly maintained and kept in good operating condition at all times with scheduled inspection and maintenance as specified by the manufacturer, 40 CFR Part 63, Subpart JJJJJJ and as needed.
    b. The permittee shall conduct five (5) year tune-ups for the boilers in accordance with 40 CFR Part 63, §63.11223. Each five (5) year tune-up must be conducted no more than sixty-one (61) months after the previous tune-up. Procedures for conducting five (5) year tune-ups are specified in Attachment IIC, Special Condition No. D.4.

Reason: The new conditions of five (5) year tune-ups were added to comply the requirements of 40 CFR Part 63, Subpart JJJJJJ.

Conclusion and Recommendation:

Recommend issuing the significant modification to existing CSP No. 0234-01-C, subject to the significant permit conditions above.

This modification amends CSP No. 0234-01-C issued on January 18, 2005. A 30-day public comment period and a 45-day EPA review period are also required.

Reviewer: Mike Madsen
Date: February 5, 2018

Enclosure (1): Greenhouse Gas Emissions

Kanoelehua Hill Generating Station GHG Emissions						
Unit	**Heat Input (MMBtu/hr)**	**Fuel**	**GHG**	**GHG Mass-Based Emissions (TPY)**	**GWP**	**GHG CO_2e Based Emissions (TPY)**
Hill 5	197	fuel oil No. 6	CO_2	142,860	1	142,860
			CH_4	5.707	25	143
			N_2O	1.141	298	340
Hill 6	249	fuel oil No. 6	CO_2	180,569	1	180,569
			CH_4	7.213	25	180
			N_2O	1.443	298	430
CT-1	177.2	fuel oil No. 2	CO_2	128,501	1	128,501
			CH_4	5.133	25	128
			N_2O	1.027	298	306
D-11	20.2	ULSD	CO_2	14,649	1	14,649
			CH_4	0.585	25	15
			N_2O	0.117	298	35
D-15	29.1	ULSD	CO_2	21,103	1	21,103
			CH_4	0.843	25	21
			N_2O	0.169	298	50
D-16	29.1	ULSD	CO_2	21,103	1	21,103
			CH_4	0.843	25	21
			N_2O	0.169	298	50
D-17	29.1	ULSD	CO_2	21,103	1	21,103
			CH_4	0.843	25	21
			N_2O	0.169	298	50
					Total ------>	531,678

a: Emission Factors are from 40 CFR Part Part 98, Mandatory Reporting of Greenhouse Gases.

REQUEST FOR PUBLIC COMMENTS
ON DRAFT AIR PERMIT
REGULATING THE EMISSIONS OF AIR POLLUTANTS

(Docket No. 18-CA-PA-03)

Pursuant to Hawaii Revised Statutes (HRS), Chapter 342B-13 and Hawaii Administrative Rules (HAR), Chapter 11-60.1, the Department of Health, State of Hawaii (DOH), is requesting public comments on the following **DRAFT PERMIT** presently under review for:

Covered Source Permit (CSP) No. 0234-01-C
Application for a Significant Modification No. 0234-04
Hawaii Electric Light Company, Inc. (HELCO)
Two (2) Boilers, One (1) Combustion Turbine, and Four (4) Diesel Engines
Kanoelehua Hill Generating Station
Located At: Hilo, Hawaii
UTM Coordinates: 284,300 Meters East, 2,179,800 Meters North, Zone 5

The **DRAFT PERMIT** is described as follows:

The significant modification amends the permit to incorporate provisions specified for Boilers Hill 5 and Hill 6 in Hawaii's Regional Haze Federal Implementation Plan (RH-FIP) and the National Emissions Standards for Hazardous Air Pollutants (NESHAP) for area source boilers. The amendment also updates fuel, opacity/visible emissions, compliance certification, annual emissions, and annual fee requirements.

Pursuant to Hawaii's RH-FIP, the amendment incorporates a 3,550 ton per year sulfur dioxide (SO_2) emissions cap specified as the sum of the total emissions from five (5) boilers at three (3) HELCO power plants on the island of Hawaii. The purpose of the limit is to ensure reasonable progress for improving visibility in mandatory Class I areas. Hawaii's two mandatory Class I Areas are Haleakala National Park on Maui and Hawaii Volcanoes National Park on the Big Island (Hawaii). Affected units are Kanoelehua Hill Generating Station, Boilers Hill 5 and Hill 6; Puna Power Plant, Boiler, and Shipman Power Plant, Boilers S-3 and S-4. Since the Shipman Generating Station closed, the cap applies only to the Kanoelehua Hill and Puna facilities.

Kanoelehua Hill Generating Station, Boilers Hill 5 and Hill 6, must also meet NESHAP requirements applicable to units located at an area source of hazardous air pollutants. Primary provisions in this NESHAP are five (5) year boiler tune-ups.

Boilers Hill 5 and Hill 6 are subject to the provisions of 40 Code of Federal Regulation (CFR) Part 52 - Approval and Promulgation of Implementation Plans, Subpart M - Hawaii, §52.633, Visibility Protection and 40 CFR Part 63, NESHAP for Source Categories, Subpart JJJJJJ, National Emission Standards for Hazardous Air Pollutants for Area Sources: Industrial, Commercial, and Institutional Boilers.

The **ADMINISTRATIVE RECORD**, consisting of the **APPLICATION** and non-confidential supporting material from the applicant, the permit review summary, and the **DRAFT PERMIT**, is available for public inspection during regular office hours, Monday through Friday, 7:45 a.m. to 4:15 p.m., at the following locations:

Oahu:

Clean Air Branch, Department of Health
2827 Waimano Home Road
Hale Ola Building, Room 130
Pearl City, Hawaii 96782

Hawaii:

Hilo: Hawaii District Health Office, Department of Health
1582 Kamehameha Avenue, Hilo, Hawaii 96720

Kona: Sanitation Branch, Department of Health
79-1020 Haukapila Street, Room 115, Kealakekua, Hawaii 96750

Maui:

Maui District Health Office, Department of Health
54 High Street, Room 300, Wailuku, Maui 96793

Kauai:

Kauai District Health Office, Department of Health
3040 Umi Street, Lihue, Kauai 96766

All comments on the draft permit and any request for a public hearing must be in writing, addressed to the Clean Air Branch at the above address on Oahu and must be postmarked or received by **March 29, 2018**.

Any person may request a public hearing by submitting a written request that explains the party's interest and the reasons why a hearing is warranted. The DOH may hold a public hearing if a hearing would aid in DOH's decision. If a public hearing is warranted, a public notice for the hearing will be published at least thirty (30) days in advance of the hearing.

Interested persons may obtain copies of the administrative record or parts thereof by paying **five (5) cents per page copying costs**. Please send written requests to the Oahu office of the Clean Air Branch listed above or call Mr. Michael Madsen at the Clean Air Branch office at (808) 586-4200. Electronic copies of the draft permit and permit review may be found online at http://health.hawaii.gov/cab/public-notices/.

Comments on the draft permit should address, but need not be limited to, the permit conditions and the facility's compliance with federal and state air pollution laws, including: (1) the National and State Ambient Air Quality Standards; and (2) HRS, Chapter 342B and HAR, Chapter 11-60.1.

DOH will make a final decision on the permit after considering all comments and will send notice of the final decision to each person who has submitted comments or requested such notice.

Virginia Pressler, M.D.
Director of Health

AFFIDAVIT OF PUBLICATION

IN THE MATTER OF
(Docket No. 18-CA-PA-03)

STATE OF HAWAII)
) SS.
City and County of Honolulu)

Doc. Date: FEB 27 2018 **# Pages:** 1

Notary Name: COLLEEN E. SORANAKA First Judicial Circuit

Doc. Description: Affidavit of Publication

FEB 27 2018
Notary Signature Date

COLLEEN E. SORANAKA ★ NOTARY PUBLIC No. 90-263 ★ STATE OF HAWAII

Gwyn Pang being duly sworn, deposes and says that she is a clerk, duly authorized to execute this affidavit of Oahu Publications, Inc. publisher of The Honolulu Star-Advertiser, MidWeek, The Garden Island, West Hawaii Today, and Hawaii Tribune-Herald, that said newspapers are newspapers of general circulation in the State of Hawaii, and that the attached notice is true notice as was published in the aforementioned newspapers as follows:

Honolulu Star-Advertiser 1 times on:
02/27/2018
MidWeek 0 times on:
The Garden Island 0 times on:
Hawaii Tribune-Herald 0 times on:
West Hawaii Today 0 times on:
Other Publications: 0 times on:

And that affiant is not a party to or in any way interested in the above entitled matter.

Gwyn Pang

Gwyn Pang

Subscribed to and sworn before me this 27 day of February A.D. 20 18

Colleen E. Soranaka, Notary Public of the First Judicial Circuit, State of Hawaii
My commission expires: Jan 06 2020

COLLEEN E. SORANAKA ★ NOTARY PUBLIC No. 90-263 ★ STATE OF HAWAII

Ad # 0001074929

SP.NO

REQUEST FOR PUBLIC COMMENTS
ON DRAFT AIR PERMIT
REGULATING THE EMISSIONS OF AIR POLLUTANTS

(Docket No. 18-CA-PA-03)

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Application for a Significant Modification No. 0234-04
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Maui District Health Office, Department of Health
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3040 Umi Street, Lihue, Kauai 96766

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Any person may request a public hearing by submitting a written request that explains the party's interest and the reasons why a hearing is warranted. The DOH may hold a public hearing if a hearing would aid in DOH's decision. If a public hearing is warranted, a public notice for the hearing will be published at least thirty (30) days in advance of the hearing.

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Comments on the draft permit should address, but need not be limited to, the permit conditions and the facility's compliance with federal and state air pollution laws, including: (1) the National and State Ambient Air Quality Standards; and (2) HRS, Chapter 342B and HAR, Chapter 11-60.1.

DOH will make a final decision on the permit after considering all comments and will send notice of the final decision to each person who has submitted comments or requested such notice.

AFFIDAVIT OF PUBLICATION

IN THE MATTER OF
(Docket No. 18-CA-PA-03)

STATE OF HAWAII }
} SS.
City and County of Honolulu }

Doc. Date: FEB 27 2018 **# Pages:** 1

Notary Name: COLLEEN E. SORANAKA First Judicial **Circuit**

Doc. Description: Affidavit of Publication

FEB 27 2018
Notary Signature Date

COLLEEN E. SORANAKA ★ NOTARY PUBLIC No. 90-263 ★ STATE OF HAWAII

Gwyn Pang being duly sworn, deposes and says that she is a clerk, duly authorized to execute this affidavit of Oahu Publications, Inc. publisher of The Honolulu Star-Advertiser, MidWeek, The Garden Island, West Hawaii Today, and Hawaii Tribune-Herald, that said newspapers are newspapers of general circulation in the State of Hawaii, and that the attached notice is true notice as was published in the aforementioned newspapers as follows:

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02/27/2018

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Other Publications: 0 times on:

And that affiant is not a party to or in any way interested in the above entitled matter.

Gwyn Pang

Gwyn Pang

Subscribed to and sworn before me this 27 day of February A.D. 20 18

Colleen E. Soranaka, Notary Public of the First Judicial Circuit, State of Hawaii
My commission expires: Jan 06 2020

COLLEEN E. SORANAKA ★ NOTARY PUBLIC No. 90-263 ★ STATE OF HAWAII

Ad # 0001074981 SP.

REQUEST FOR PUBLIC COMMENTS
ON DRAFT AIR PERMIT
REGULATING THE EMISSIONS OF AIR POLLUTANTS

(Docket No. 18-CA-PA-03)

Pursuant to Hawaii Revised Statutes (HRS), Chapter 342B-13 and Hawaii Administrative Rules (HAR), Chapter 11-60.1, the Department of Health, State of Hawaii (DOH), is requesting public comments on the following DRAFT PERMIT presently under review for:

Covered Source Permit (CSP) No. 0234-01-C
Application for a Significant Modification No. 0234-04
Hawaii Electric Light Company, Inc. (HELCO)
Two (2) Boilers, One (1) Combustion Turbine, and Four (4) Diesel Engines
Kanoelehua Hill Generating Station
Located At: Hilo, Hawaii
UTM Coordinates: 284,300 Meters East, 2,179,800 Meters North, Zone 5

The DRAFT PERMIT is described as follows:

The significant modification amends the permit to incorporate provisions specified for Boilers Hill 5 and Hill 6 in Hawaii's Regional Haze Federal Implementation Plan (RH-FIP) and the National Emissions Standards for Hazardous Air Pollutants (NESHAP) for area source boilers. The amendment also updates fuel, opacity/visible emissions, compliance certification, annual emissions, and annual fee requirements.

Pursuant to Hawaii's RH-FIP, the amendment incorporates a 3,550 ton per year sulfur dioxide (SO2) emissions cap specified as the sum of the total emissions from five (5) boilers at three (3) HELCO power plants on the island of Hawaii. The purpose of the limit is to assure reasonable progress for improving visibility in mandatory Class I areas. Hawaii's two mandatory Class I Areas are Haleakala National Park on Maui and Hawaii Volcanoes National Park on the Big Island (Hawaii). Affected units are Kanoelehua Hill Generating Station, Boilers Hill 5 and Hill 6; Puna Power Plant, Boiler, and Shipman Power Plant, Boilers S-3 and S-4. Since the Shipman Generating Station closed, the cap applies only to the Kanoelehua Hill and Puna facilities.

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Boilers Hill 5 and Hill 6 are subject to the provisions of 40 Code of Federal Regulation (CFR) Part 52 - Approval and Promulgation of Implementation Plans, Subpart M - Hawaii, §52.633, Visibility Protection and 40 CFR Part 63, NESHAP for Source Categories, Subpart JJJJJJ, National Emission Standards for Hazardous Air Pollutants for Area Sources: Industrial, Commercial, and Institutional Boilers.

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Gwyn Pang

Gwyn Pang

Subscribed to and sworn before me this 27 day of February A.D. 2018

Colleen E. Soranaka, Notary Public of the First Judicial Circuit, State of Hawaii
My commission expires: Jan 06 2020

Ad # 0001074997

SP.NO

ON DRAFT AIR PERMIT
REGULATING THE EMISSIONS OF AIR POLLUTANTS

(Docket No. 18-CA-PA-03)

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Two (2) Boilers, One (1) Combustion Turbine, and Four (4) Diesel Engines
Kanoelehua Hill Generating Station
Located At: Hilo, Hawaii
UTM Coordinates: 284,300 Meters East, 2,179,800 Meters North, Zone 5

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Gwyn Pang

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Colleen E. Soranaka, Notary Public of the First Judicial Circuit, State of Hawaii.
My commission expires: Jan 06 2020

COLLEEN E. SORANAKA ★ NOTARY PUBLIC No. 90-263 ★ STATE OF HAWAII

Ad # 0001074989 SP.NO.

ON DRAFT AIR PERMIT
REGULATING THE EMISSIONS OF AIR POLLUTANTS

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Two (2) Boilers, One (1) Combustion Turbine, and Four (4) Diesel Engines
Kanoelehua Hill Generating Station
Located At: Hilo, Hawaii
UTM Coordinates: 284,300 Meters East, 2,179,800 Meters North, Zone 6

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AFFIDAVIT OF PUBLICATION

STATE OF HAWAII, } ss.
County of Maui. }

Rhonda M. Kurohara being duly sworn deposes and says,that she is in Advertising Sales of the Maui Publishing Co., Ltd., publishers of THE MAUI NEWS, a newspaper published in Wailuku, County of Maui, State of Hawaii; that the ordered publication as to REQUEST FOR PUBLIC COMMENTS ON DRAFT AIR DOCKET NO. 18-CA-PA-03 of which the annexed is a true and correct printed notice, was published 1 times in THE MAUI NEWS, aforesaid, commencing on the 27th day of February, 2018, and ending on the 27th day of February, 2018 (one day) inclusive), to-wit: on February 27, 2018

and that affiant is not a party to or in any way interested in the above entitled matter.

This 1 page REQUEST FOR PUBLIC, dated February 27, 2018, was subscribed and sworn to before me this 27th day of February, 2018 in the Second Circuit of the State of Hawaii, by Rhonda M. Kurohara

Notary Public, Second Judicial Circuit, State of Hawaii

BETTY E. UEHARA
My Commission expires 09-26-2019

BETTY E. UEHARA NOTARY PUBLIC No. 83-344 STATE OF HAWAII

REQUEST FOR PUBLIC COMMENTS ON DRAFT AIR PERMIT REGULATING THE EMISSIONS OF AIR POLLUTANTS

(Docket No. 18-CA-PA-03)

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DOH will make a final decision on the permit after considering all comments and will send notice of the final decision to each person who has submitted comments or requested such notice.

Virginia Pressler, M.D.
Director of Health

(MN: Feb. 27, 2018)

SUMMARY OF COMMENTS RECEIVED ON DRAFT AIR PERMIT FOR HAWAII ELECTRIC LIGHT COMPANY, INC. (HELCO) KANOELEHUA HILL GENERATING STATION LOCATED AT: HILO, HAWAII

I. OVERVIEW

Pursuant to Hawaii Administrative Rules (HAR), Chapter 11-60.1, a thirty-day (30-day) public comment period was afforded to consider the significant modification to Covered Source Permit (CSP) No. 0234-01-C. The public comment period was from February 27, 2018, to March 29, 2018. The purpose of the public comment period was to receive comments on the draft permit to be issued to HELCO. The significant modification amends the permit to incorporate provisions specified for Boilers Hill 5 and Hill 6 in Hawaii's Regional Haze Federal Implementation Plan and the National Emission Standards for Hazardous Air Pollutants (NESHAP) for area source boilers.

Eight (8) comments were received from Hawaiian Electric on March 23, 2018. Hawaiian Electric's comments and the Department's responses are addressed below in Section II, Comments and Responses.

For your information, the Department made changes to the permit unrelated to Hawaiian Electric's comments. The changes to the permit are addressed in Section III, Additional Revisions.

II. COMMENTS AND RESPONSES

A. Hawaiian Electric Comment (Attachment IIC, Special Condition No. D.2.b):

Request the use of American Society for Testing and Materials (ASTM) D7039 (Standard Test Method for Sulfur in Gasoline, Diesel Fuel, Jet Fuel, Kerosene, Biodiesel, Biodiesel Blends, and Gasoline-Ethanol Blends by Manochromatic Wavelength Dispersive X-ray Fluorescence Spectrometry) as an acceptable alternative method for measuring fuel sulfur content. The ASTM D7039 method provides precision for low sulfur fuels.

Response:

40 Code of Federal Regulations (CFR) Part 52, §52.633(d)(5)(iii) specifies the use of ASTM D4057 for obtaining fuel samples and requires the samples to be analyzed for total sulfur content using ASTM D129, or alternatively D1266, D1552, D2622, D4294, or D5453.

Available information indicates that ASTM D7039 provides equivalent results to ASTM D5453. EPA sponsored test program conducted on ASTM D7039 for determining the sulfur content of ultralow sulfur fuel also shows the test method is accurate and has no statistically observable bias. Additionally, ASTM D7039 has received approval for diesel sulfur testing under 40 CFR §80.584 and §80.585.

Based on the information, Attachment IIC, Special Condition No. D.2.b was changed as follows (note that deletions are shown as strikethroughs and italicized-bold items are added):

2. Fuel Usage

   b. All fuel fired by the boilers shall be sampled and tested in accordance with the most current American Society for Testing and Materials (ASTM) methods. A representative sample of each batch of fuel received shall be analyzed for its sulfur content and heat value following ASTM Method D4057. The samples shall be analyzed for total sulfur content of the fuel using ASTM D129, or alternatively D1266, D1552, D2622, D4294, ~~or~~ D5453***, or D7039***. The analysis may be performed by the permittee, the supplier, or third party lab.

B. Hawaiian Electric Comment (Attachment IIC, Special Condition Nos. E.2 and E.3):

Request to remove the added "Notifications" section and add the Regional Haze Emission Cap deviation reporting requirement to the "Deviations" section to be clear there is only one (1) submittal.

Response:

Attachment IIC, Special Condition Nos. E.2 and E.3 are separate conditions. Attachment IIC, Special Condition No. E.2 is a requirement of HAR §11-60.1-16 for prompt reporting of deviations to the Department. Attachment IIC, Special Condition No. E.3, is a requirement of 40 Code of Federal Regulations (CFR) §52.633 for reporting SO_2 emission cap exceedances to the Department and the Environmental Protection Agency (EPA). The permittee must meet both of these requirements. Since requirements overlap for reporting to the Department, Attachment IIC, Special Condition Nos. E.2 and E.3, were revised as follows: (note that deletions are shown as strikethroughs and italicized-bold items are added):

2. Deviations

   The permittee shall report ***to the Department in writing,*** **within five (5) working days,** any deviations from permit requirements, including those attributed to upset conditions, the probable cause of such deviations and any corrective actions or preventive measures taken. Corrective actions may include a requirement for additional source testing, more frequent monitoring, or could trigger implementation of a corrective action plan.

   (Auth.: HAR §11-60.1-3, §11-60.1-15, §11-60.1-16, §11-60.1-90; ***40 CFR §52.633)***[2,3]

3. Notifications

   The permittee shall notify ~~the Department and~~ U.S. EPA, Region 9, in writing, of any exceedance of the emission cap specified in Attachment IIC, Special Condition No. C.2, within **thirty (30) days** of such exceedance.

C. Hawaiian Electric Comment (Attachment IIC, Special Condition No. E.4.b):

Request to remove the requirement to submit the "Monitoring Report Form: Boiler Tune-Up" to the EPA because the submittal of boiler tune-up information is not required by 40 CFR Part 63, NESHAP, Subpart JJJJJJ.

Response:

The requirement to submit the Monitoring Report Form: Boiler Tune-Up to the EPA was removed. Attachment IIC, Special Condition No. E.4.b, was changed as follows (note that deletions are shown as strikethroughs):

4. Monitoring Reports

The permittee shall submit the following written report to the Department ~~and U.S. EPA, Region 9~~. The report shall be submitted within **sixty (60) days** after each boiler tune-up and shall be signed and dated by a responsible official. The following enclosed form, or equivalent form, shall be used for reporting:

Monitoring Report Form: Boiler Tune-Up

D. Hawaiian Electric Comment (Attachment IIC, Special Condition No. E.6):

Compliance Certification deadline for the other attachments of the Kanoelehua-Hill permit is ninety (90) days.

Response:

Requirements were updated in Attachment IIC to submit the compliance certification **within sixty (60) days** after the end of each calendar year. The compliance certification deadline for the other attachments in the permit will be changed from ninety (90) to sixty (60) days after the end of each calendar year upon permit renewal.

E. Hawaiian Electric Comment (Attachment IIC, Special Condition No. E.7):

The Area Source Boiler NESHAP says that the compliance certification report should be submitted if the source experiences a deviation. Hawaiian Electric requested the condition be changed to require the submittal of a compliance certification report upon request or if there are deviations from 40 CFR Part 63, NESHAP, Subpart JJJJJJ requirements.

Response:

We agree with your request. Attachment IIC, Special Condition No. E.7 was revised as follows (note that deletions are shown as strikethroughs and italicized-bold items are added):

7. 5-Year Compliance Certification Report

The permittee shall~~: prepare, by March 1 of the year following the calendar year during which a tune-up is completed, a five year (5-year) certification compliance report. The report shall be submitted to the Department and U.S. EPA, Region 9, by March 15 of each five year (5-year) reporting year and shall be signed and dated by a responsible official. The following enclosed form, or equivalent form, shall be used for reporting:~~

~~**5-Year Compliance Certification Form: Boilers**~~

a. Prepare, by March 1 of the year following the calendar year during which a tune-up is completed, the enclosed 5-Year Compliance Certification Form: Boiler. The report shall include a description of deviations, the time periods during which the deviations occurred, and the corrective actions taken;

b. Submit the report to the Department or U.S. EPA, Region 9 upon request; and

c. Submit the report to the Department and U.S. EPA, Region 9 by March 15 if there are any deviations from the applicable requirements of 40 CFR Part 63, Subpart JJJJJJ.

The following enclosed form, or equivalent form, shall be used for reporting:

5-Year Compliance Certification Form: Boilers

F. Hawaiian Electric Comment (MONITORING REPORT FORM, SULFUR DIOXIDE (SO_2) EMISSIONS – BOILERS):

Puna Boiler does not have a number.

Response:

Boiler 1 was changed to Boiler in the table of the monitoring report form to report SO_2 emissions.

G. Hawaiian Electric Comment (5-YEAR COMPLIANCE CERTIFICATION REPORT FORM, BOILER):

Change to submit form if Hill 5 or Hill 6 experience deviations from any applicable requirements of 40 CFR Part 63, NESHAP, Subpart JJJJJJ during the reporting period, or upon request by the EPA.

Response:

The form will be revised as follows (note that deletions are shown as strikethroughs and italicized-bold items are added):

5-YEAR COMPLIANCE CERTIFICATION REPORT FORM
BOILER
COVERED SOURCE PERMIT NO. 0234-01-C

Amended Date: **June 6, 2018**

Expiration Date: **January 17, 2010**
(Expiration Date will be Revised Upon Permit Renewal)

In accordance with the Hawaii Administrative Rules, Title 11, Chapter 60.1, Air Pollution Control, ***and 40 Code of Federal Regulations, NESHAPS Part 63, Subpart JJJJJJ,*** the permittee shall ***complete and submit this*** report ***at the frequency identified in Attachment IIC, Special Condition No. E.7.*** ~~to the Department of Health and U.S. EPA, Region 9, the following information biennially or every 5 years, as applicable:~~

(Make Copies for Future Use)

For Period: _____ Date: _____

Company Name: _____

Facility Name: _____

I certify that I have knowledge of the facts herein set forth, that the same are true, accurate, and complete to the best of my knowledge and belief, and that all information not identified by me as confidential in nature shall be treated by the Department of Health as public record.

Responsible Official (Print): _____

Title: _____ Phone Number: _____

E-Mail Address: _____

Address: _____

Responsible Official (Signature): _____

Complete this form for each boiler.

1. ***Identify any deviations*** ~~Provide in the table below, information on whether or not the boiler complied~~ with all relevant standards and other requirements of 40 CFR Part 63, Subpart JJJJJJ, ***a description of the deviations, the time periods during which the deviations occurred, and the corrective actions taken***:

Description of Deviation ~~Boiler Description~~	***Date (s) of Deviation*** ~~Does the Boiler Comply with 40 CFR Part 63, Subpart JJJJJJ?~~		***Corrective Action Taken*** ~~Date of Most Recent Boiler Tune-Up~~
	from ~~Yes~~	***to*** ~~No~~	

2. "This facility complies with the requirements of 40 CFR §63.11223 to conduct a five (5) year tune-up, as applicable, of the boiler." Yes _____ No _____

3. ***Date of most recent boiler tune-up:*** _____

III. ADDITION REVISIONS

A. Mailing addresses have changed in Attachment I, Standard Condition No. 29. Standard Condition No. 29 of the permit was revised as follows (note that deletions are shown as strikethroughs and italicized-bold items are added):

29. **Any document (including reports) required to be submitted by this permit shall be certified as being true, accurate, and complete by a responsible official in accordance with HAR, sections 11-60.1-1 and 11-60.1-4, and shall be mailed to the following address:**

~~**Clean Air Branch**~~
~~**Environmental Management Division**~~
~~**State of Hawaii Department of Health**~~
~~**P. O. Box 3378**~~
~~**Honolulu, HI 96801-3378**~~
State of Hawaii
Clean Air Branch
2827 Waimano Home Road #130
Pearl City, HI 96782

Upon request, all correspondence to the State of Hawaii Department of Health associated with this Covered Source Permit shall have duplicate copies forwarded to:

~~**Chief**~~
~~**Permits Office, (Attention: Air-3)**~~
~~**Air Division**~~
~~**U.S. Environmental Protection Agency**~~
~~**Region 9**~~
Manager
Enforcement Division, Air Section
U.S. Environmental Protection Agency, Reg. 9
75 Hawthorne Street, *ENF-2-1*
San Francisco, CA 94105

B. The mailing address specified in Attachment II: Annual Fee Requirements has changed. This form was revised as follows (note that deletions are shown as strikethroughs and italicized-bold items are added):

ATTACHMENT III: ANNUAL FEE REQUIREMENTS
COVERED SOURCE PERMIT NO. 0234-01-C

Amended Date: June 6, 2018 **Expiration Date: January 17, 2010**
(Expiration Date will be revised Upon Permit Renewal)

The following requirements for the submittal of annual fees are established pursuant to Hawaii Administrative Rules (HAR), Title 11, Chapter 60.1, Air Pollution Control. Should HAR, Chapter 60.1, be revised such that the following requirements are in conflict with the provisions of HAR, Chapter 60.1, the permittee shall comply with the provisions of HAR, Chapter 60.1:

1. Annual fees shall be paid in full:

   a. Within **one hundred and twenty (120) days** after the end of each calendar year; and
   b. Within **thirty (30) days** after the permanent discontinuance of the covered source.

2. The annual fees shall be determined and submitted in accordance with Hawaii Administrative Rules, Chapter 11-60.1, Subchapter 6.

3. The annual emissions data for which the annual fees are based shall accompany the submittal of any annual fees and submitted on forms furnished by the Department of Health.

4. The annual fees and the emission data shall be mailed to:

~~**Clean Air Branch**~~
~~**Environmental Management Division**~~
~~**Hawaii Department of Health**~~
~~**P. O. Box 3378**~~
~~**Honolulu, HI 96801-3378**~~
State of Hawaii
Clean Air Branch
2827 Waimano Home Road #130
Pearl City, HI 96782

DAVID Y. IGE
GOVERNOR OF HAWAII

BRUCE S. ANDERSON, Ph.D.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
P.O. Box 3378
HONOLULU, HAWAII 96801-3378

In reply, please refer to:
File:

18-676E CAB
File No. 0235

October 12, 2018

Mr. Jay Ignacio
President
Hawaii Electric Light Company, Inc.
P.O. Box 1027
Hilo, Hawaii 96721-1027

Dear Mr. Ignacio:

SUBJECT: Application for Renewal No. 0235-02 and Minor Modification No. 0235-03
Covered Source Permit (CSP) No. 0235-01-C
Hawaii Electric Light Company, Inc. (HELCO)
Puna Generating Station
Location: Keaau, Hawaii

The Department of Health (Department) thanks you for providing comments on the subject CSP. The subject permit was recently approved by the Department subsequent to the thirty (30) day public comment period and the forty-five (45) day review period by the U.S. Environmental Protection Agency (EPA). Enclosed is the signed covered source permit and copy of the summary of public comments received.

Pursuant to Hawaii Administrative Rules, Section 11-60.1-100, you may petition the Administrator of the U.S. EPA in accordance with 40 Code of Federal Regulations 70.8(d) or petition the Department for a contested case hearing. The petition to the Department for a contested case hearing should be made within ninety (90) days of the date of permit issuance and mailed to:

State of Hawaii
Clean Air Branch
2827 Waimano Home Road, #130
Pearl City, HI 96782

If there are any questions regarding this matter, please contact Ms. Chenyan Song of my staff at (808) 586-4200.

Sincerely,

MARIANNE ROSSIO, P.E.
Manager, Clean Air Branch

CS:tkg

Enclosures

c: Myrna Tandi, Hawaiian Electric
EPA, Region 9

DAVID Y. IGE
GOVERNOR OF HAWAII

BRUCE S. ANDERSON, Ph.D.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
P.O. Box 3378
HONOLULU, HAWAII 96801-3378

In reply, please refer to:
File:

October 12, 2018

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
(7017 0660 0001 0766 1437)

18-675E CAB
File No. 0235

Mr. Jay Ignacio
President
Hawaii Electric Light Company, Inc.
P.O. Box 1027
Hilo, Hawaii 96721-1027

Dear Mr. Ignacio:

SUBJECT: Covered Source Permit (CSP) No. 0235-01-C
Application for Renewal No. 0235-02 and Minor Modification No. 0235-03
Hawaii Electric Light Company, Inc. (HELCO)
Puna Generating Station
One (1) 20 MW Combustion Turbine with a 600 KW Black Start Diesel Engine Generator, and One (1) 15.5 MW Boiler with a Multi-Cyclone Dust Collector
Located At: Keaau, Hawaii
UTM Coordinates: 286.6 km East, 2172.3 km North, Zone 5, Old Hawaiian
Date of Expiration: October 11, 2023

The subject CSP is issued in accordance with Hawaii Administrative Rules (HAR), Title 11, Chapter 60.1. The issuance of this permit is based on the plans, specifications, and information that you submitted as part of your application received on November 16, 2006, October 28, 2008, November 12, 2008, October 15, 2015, and additional information received on October 27 and 28, 2015, November 17 and 24, 2015, and December 21, 2015. This permit supersedes CSP No. 0235-01-C, issued on November 15, 2002, and administrative amendment issued on June 23, 2009, in its entirety.

The CSP is issued subject to the conditions/requirements set forth in the following attachments:

Attachment I: Standard Conditions
Attachment IIA: Special Conditions – Combustion Turbine
Attachment IIB: Special Conditions – Black Start Diesel Engine Generator
Attachment IIC: Special Conditions – Boiler
Attachment II – INSIG: Special Conditions – Insignificant Activities
Attachment III: Annual Fee Requirements
Attachment IV: Annual Emissions Reporting Requirements

The following forms are enclosed for your use and submittal as required:

Compliance Certification Form
Annual Emissions Report Form: Combustion Turbine Generator, Black Start Diesel Engine Generator and Boiler
Monitoring Report Form: Fuel Certification
Monitoring Report Form: Combustion Turbine
Monitoring Report Form: Operating Hours – Black Start Diesel Engine Generator
Monitoring Report Form: Specification Used Oil - Boiler
Monitoring Report Form: Boiler Tune-ups
Monitoring Report Form: Sulfur Dioxide Emissions
Monitoring Report Form: Opacity Exceedances
5-Year Compliance Certification Report Form: Boiler
Excess Emission and Monitoring System Performance (CEMS) Summary Report

The following are enclosed for your use in monitoring visible emissions:

Visible Emissions Form Requirements, State of Hawaii
Visible Emissions Form

This permit: (a) shall not in any manner affect the title of the premises upon which the equipment is to be located; (b) does not release the permittee from any liability for any loss due to personal injury or property damage caused by, resulting from or arising out of the design, installation, maintenance, or operation of the equipment; and (c) in no manner implies or suggests that the Department of Health, Clean Air Branch (herein after referred to as Department), or its officers, agents, or employees, assumes any liability, directly or indirectly, for any loss due to personal injury or property damage caused by, resulting from or arising out of the design, installation, maintenance, or operation of the equipment.

If you have any questions, please contact Ms. Chenyan Song of the Clean Air Branch at (808) 586-4200.

Sincerely,

Marianne Rossio

MARIANNE ROSSIO, P.E., ACTING CHIEF
Environmental Management Division

CS:jg

Enclosures

ATTACHMENT I: STANDARD CONDITIONS
COVERED SOURCE PERMIT NO. 0235-01-C

Issuance Date: October 12, 2018 **Expiration Date:** October 11, 2023

This permit is granted in accordance with the Hawaii Administrative Rules (HAR), Title 11, Chapter 60.1, Air Pollution Control, and is subject to the following standard conditions:

1. Unless specifically identified, the terms and conditions contained in this permit are consistent with the applicable requirement, including form, on which each term or condition is based.

   (Auth.: HAR §11-60.1-90)

2. This permit, or a copy thereof, shall be maintained at or near the source and shall be made available for inspection upon request. The permit shall not be willfully defaced, altered, forged, counterfeited, or falsified.

   (Auth.: HAR §11-60.1-6; SIP §11-60-11)[2]

3. This permit is not transferable whether by operation of law or otherwise, from person to person, from place to place, or from one piece of equipment to another without the approval of the Department, except as provided in HAR, Section 11-60.1-91.

   (Auth.: HAR §11-60.1-7; SIP §11-60-9)[2]

4. A request for transfer from person to person shall be made on forms furnished by the Department.

   (Auth.: HAR §11-60.1-7)

5. In the event of any changes in control or ownership of the facilities to be constructed or modified, this permit shall be binding on all subsequent owners and operators. The permittee shall notify the succeeding owner and operator of the existence of this permit and its conditions by letter, copies of which will be forwarded to the Department and the U.S. Environmental Protection Agency (EPA), Region 9.

   (Auth.: HAR §11-60.1-5, §11-60.1-7, §11-60.1-94)

6. The facility covered by this permit shall be constructed and operated in accordance with the application, and any information submitted as part of the application, for the CSP. There shall be no deviation unless additional or revised plans are submitted to and approved by the Department, and the permit is amended to allow such deviation.

   (Auth.: HAR §11-60.1-2, §11-60.1-4, §11-60.1-82, §11-60.1-84, §11-60.1-90)

7. This permit (a) does not release the permittee from compliance with other applicable statutes of the State of Hawaii, or with applicable local laws, regulations, or ordinances, and (b) shall not constitute, nor be construed to be an approval of the design of the covered source.

   (Auth.: HAR §11-60.1-5, §11-60.1-82)

8. The permittee shall comply with all the terms and conditions of this permit. Any permit noncompliance constitutes a violation of HAR, Chapter 11-60.1, and the Clean Air Act and is grounds for enforcement action; for permit termination, suspension, reopening, or amendment; or for denial of a permit renewal application.

   (Auth.: HAR §11-60.1-3, §11-60.1-10, §11-60.1-19, §11-60.1-90)

9. If any term or condition of this permit becomes invalid as a result of a challenge to a portion of this permit, the other terms and conditions of this permit shall not be affected and shall remain valid.

   (Auth.: HAR §11-60.1-90)

10. The permittee shall not use as a defense in an enforcement action that it would have been necessary to halt or reduce the permitted activity to maintain compliance with the terms and conditions of this permit.

    (Auth.: HAR §11-60.1-90)

11. This permit may be terminated, suspended, reopened, or amended for cause pursuant to HAR, Sections 11-60.1-10 and 11-60.1-98, and Hawaii Revised Statutes (HRS), Chapter 342B-27, after affording the permittee an opportunity for a hearing in accordance with HRS, Chapter 91.

    (Auth.: HAR §11-60.1-3, §11-60.1-10, §11-60.1-90, §11-60.1-98)

12. The filing of a request by the permittee for the termination, suspension, reopening, or amendment of this permit, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.

    (Auth.: HAR §11-60.1-90)

13. This permit does not convey any property rights of any sort, or any exclusive privilege.

    (Auth.: HAR §11-60.1-90)

14. The permittee shall notify the Department and U.S. EPA, Region 9, in writing of the following dates:

    a. The **anticipated date of initial start-up** for each emission unit of a new source or significant modification not more than sixty (60) days or less than thirty (30) days prior to such date;
    b. The **actual date of construction commencement** within fifteen (15) days after such date; and
    c. The **actual date of start-up** within fifteen (15) days after such date.

    (Auth.: HAR §11-60.1-90)

15. The permittee shall furnish, in a timely manner, any information or records requested in writing by the Department to determine whether cause exists for terminating, suspending, reopening, or amending this permit, or to determine compliance with this permit. Upon request, the permittee shall also furnish to the Department copies of records required to be kept by the permittee. For information claimed to be confidential, the Director of Health may require the permittee to furnish such records not only to the Department but also directly to the U.S. EPA, Region 9, along with a claim of confidentiality.

    (Auth.: HAR §11-60.1-14, §11-60.1-90)

16. The permittee shall notify the Department in writing, of the **intent to shut down air pollution control equipment for necessary scheduled maintenance** at least twenty-four (24) hours prior to the planned shutdown. The submittal of this notice shall not be a defense to an enforcement action. The notice shall include the following:

    a. Identification of the specific equipment to be taken out of service, as well as its location and permit number;
    b. The expected length of time that the air pollution control equipment will be out of service;
    c. The nature and quantity of emissions of air pollutants likely to be emitted during the shutdown period;
    d. Measures such as the use of off-shift labor and equipment that will be taken to minimize the length of the shutdown period; and
    e. The reasons why it would be impossible or impractical to shut down the source operation during the maintenance period.

    (Auth.: HAR §11-60.1-15; SIP §11-60-16)[2]

17. **Except for emergencies which result in noncompliance with any technology-based emission limitation in accordance with HAR, Section 11-60.1-16.5, in the event any emission unit, air pollution control equipment, or related equipment malfunctions or breaks down in such a manner as to cause the emission of air pollutants in violation of HAR, Chapter 11-60.1, or this permit**, the permittee shall immediately notify the Department of the malfunction or breakdown, unless the protection of personnel or public health or safety demands immediate attention to the malfunction or breakdown and makes such notification infeasible. In the latter case, the notice shall be provided as soon as

practicable. Within five (5) working days of this initial notification, the permittee shall also submit, in writing, the following information:

a. Identification of each affected emission point and each emission limit exceeded;
b. Magnitude of each excess emission;
c. Time and duration of each excess emission;
d. Identity of the process or control equipment causing the excess emission;
e. Cause and nature of each excess emission;
f. Description of the steps taken to remedy the situation, prevent a recurrence, limit the excessive emissions, and assure that the malfunction or breakdown does not interfere with the attainment and maintenance of the National Ambient Air Quality Standards and State Ambient Air Quality Standards;
g. Documentation that the equipment or process was at all times maintained and operated in a manner consistent with good practice for minimizing emissions; and
h. A statement that the excess emissions are not part of a recurring pattern indicative of inadequate design, operation, or maintenance.

The submittal of these notices shall not be a defense to an enforcement action.

(Auth.: HAR §11-60.1-16; SIP §11-60-16)[2]

18. The permittee may request confidential treatment of any records in accordance with HAR, Section 11-60.1-14.

(Auth.: HAR §11-60.1-14, §11-60.1-90)

19. This permit shall become invalid with respect to the authorized construction if construction is not commenced as follows:

a. Within eighteen (18) months after the permit takes effect, is discontinued for a period of eighteen (18) months or more, or is not completed within a reasonable time.
b. For phased construction projects, each phase shall commence construction within eighteen (18) months of the projected and approved commencement dates in the permit. This provision shall be applicable only if the projected and approved commencement dates of each construction phase are defined in Attachment II, Special Conditions, of this permit.

(Auth.: HAR §11-60.1-9, §11-60.1-90)

20. The Department may extend the time periods specified in Standard Condition No. 19 upon a satisfactory showing that an extension is justified. Requests for an extension shall be submitted in writing to the Department.

(Auth.: HAR §11-60.1-9, §11-60.1-90)

21. The permittee shall submit fees in accordance with HAR, Chapter 11-60.1, Subchapter 6.

(Auth.: HAR §11-60.1-90)

22. All certifications shall be in accordance with HAR, Section 11-60.1-4.

    (Auth.: HAR §11-60.1-4, HAR §11-60.1-90)

23. The permittee shall allow the Director of Health, the Regional Administrator for the U.S. EPA and/or an authorized representative, upon presentation of credentials or other documents required by law:

    a. To enter the premises where a source is located or emission-related activity is conducted, or where records must be kept under the conditions of this permit and inspect at reasonable times all facilities, equipment, including monitoring and air pollution control equipment, practices, operations, or records covered under the terms and conditions of this permit and request copies of records or copy records required by this permit; and
    b. To sample or monitor at reasonable times substances or parameters to ensure compliance with this permit or applicable requirements of HAR, Chapter 11-60.1.

    (Auth.: HAR §11-60.1-11, §11-60.1-90)

24. Within thirty (30) days of **permanent discontinuance of the construction, modification, relocation, or operation of a covered source covered by this permit**, the discontinuance shall be reported in writing to the Department by a responsible official of the source.

    (Auth.: HAR §11-60.1-8; SIP §11-60-10)[2]

25. Each permit renewal application shall be submitted to the Department and the U.S. EPA, Region 9, no less than twelve (12) months and no more than eighteen (18) months prior to the permit expiration date. The Director of Health may allow a permit renewal application to be submitted no less than six (6) months prior to the permit expiration date, if the Director of Health determines that there is reasonable justification.

    (Auth.: HAR §11-60.1-101; 40 CFR §70.5(a)(1)(iii))[1]

26. The terms and conditions included in this permit, including any provision designed to limit a source's potential to emit, are federally enforceable unless such terms, conditions, or requirements are specifically designated as not federally enforceable.

    (Auth.: HAR §11-60.1-93)

27. The compliance plan and compliance certification submittal requirements shall be in accordance with HAR, Sections 11-60.1-85 and 11-60.1-86. As specified in HAR, Section 11-60.1-86, the compliance certification shall be submitted to the Department and the U.S. EPA, Region 9, once per year, or more frequently as set by any applicable requirement.

    (Auth.: HAR §11-60.1-90)

28. **Any document (including reports) required to be submitted by this permit shall be certified as being true, accurate, and complete by a responsible official in accordance with HAR, Sections 11-60.1-1 and 11-60.1-4, and shall be mailed to the following address:**

State of Hawaii
Clean Air Branch
2827 Waimano Home Road, #130
Pearl City, Hawaii 96782

Upon request and as required by this permit, all correspondence to the State of Hawaii Department of Health associated with this CSP shall have duplicate copies forwarded to:

Manager
Enforcement Division, Air Section
U.S. Environmental Protection Agency, Reg. 9
75 Hawthorne Street, ENF-2-1
San Francisco, CA 94105

(Auth.: HAR §11-60.1-4, §11-60.1-90)

29. To determine compliance with submittal deadlines for time-sensitive documents, the postmark date of the document shall be used. If the document was hand-delivered, the date received ("stamped") at the Clean Air Branch shall be used to determine the submittal date.

(Auth.: HAR §11-60.1-5, §11-60.1-90)

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[1]The citations to the Code of Federal Regulations (CFR) identified under a particular condition, indicate that the permit condition complies with the specified provision(s) of the CFR. Due to the integration of the preconstruction and operating permit requirements, permit conditions may incorporate more stringent requirements than those set forth in the CFR.
[2]The citations to the State Implementation Plan (SIP) identified under a particular condition, indicate that the permit condition complies with the specified provision(s) of the SIP.

ATTACHMENT IIA: SPECIAL CONDITIONS – COMBUSTION TURBINE
COVERED SOURCE PERMIT NO. 0235-01-C

Issuance Date: October 12, 2018 **Expiration Date: October 11, 2023**

In addition to the Standard Conditions of the Covered Source Permit, the following Special Conditions shall apply to the permitted facility:

Section A. Equipment Description

1. Attachment IIA encompasses the following equipment and associated appurtenances:

Unit	Description
CT-3	20 MW Nominal (24.66 MW Peak Load) General Electric Combustion Turbine, Model No. LM 2500, Serial No. 481-651, 275 MMBtu/hr

(Auth.: HAR §11-60.1-3)

2. The permittee shall permanently attach an identification tag or name plate on the equipment listed above, which identifies the model number, serial number, and manufacturer. The identification tag or name plate shall be attached to the equipment at a conspicuous location.

(Auth.: HAR §11-60.1-5, §11-60.1-90)

Section B. Applicable Federal Regulations

1. CT-3 is subject to the provisions of the following federal regulations:

   a. This CSP incorporates conditional requirements from an existing permit issued pursuant to Title 40 Code of Federal Regulations (CFR) Part 52 - Approval and Promulgation of Implementation Plans, §52.21 Prevention of Significant Deterioration of Air Quality;
   b. 40 CFR Part 60, Standards of Performance for New Stationary Sources, Subpart A, General Provisions; and
   c. 40 CFR Part 60, Standards of Performance for New Stationary Sources, Subpart GG, Standards of Performance for Stationary Gas Turbines.

(Auth.: HAR §11-60.1-3, §11-60.1-90, §11-60.132, §11-60.1-161, 40 CFR 60.1, 40 CFR 60.330)[1]

2. The permittee shall comply with all applicable requirements of these standards, including all emission and operating limits, monitoring, recordkeeping, notification, reporting, and testing requirements.

The major requirements of these standards are detailed in the special conditions of this permit.

(Auth.: HAR §11-60.1-3, §11-60.1-90, §11-60.132, §11-60.1-161, 40 CFR 60.1, 40 CFR 60.330)[1]

Section C. Operational and Emissions Limitations

1. Operation

   CT-3 shall be properly maintained and kept in good operating condition at all times to minimize air pollutant emissions. The permittee shall follow a regular maintenance schedule to ensure proper operation as recommended by the manufacturer and as needed.

   (Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-90)

2. Fuel Specifications

   a. CT-3 shall only be fired on No. 2 diesel fuel with a maximum sulfur content not to exceed 0.4% by weight.
   b. Fuel additives (that do not increase emissions) may be used to reduce corrosion, control biological growth, enhance combustion, etc. Fuel additives used shall not contain any hazardous air pollutants.

   (Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-38, §11-60.1-90)

3. Minimum Operation Load – Operating Hours

   CT-3 shall not operate below twenty-five (25) percent of peak load (6.165 MW) for more than sixty-six (66) hours in any rolling twelve-month (12-month) period except during startup, shutdown, maintenance and testing.

   (Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-90)

4. "Start-Up" and "Shut-Down"

   a. The startup sequence for CT-3 shall be a twenty (20) minute period starting from the time fuel use at CT-3 begins. Upon completion of the twenty (20) minute startup sequence, CT-3 shall be at twenty-five (25) percent of peak load (6.165 MW) or more and the water injection system shall be operational.

b. The "shut-down" sequence for CT-3 shall not exceed twenty (20) minutes. A "shut-down" sequence shall be considered from the time the combustion turbine controls stop signal is initiated for CT-3 and CT-3 is below twenty-five (25) percent of peak load (6.165 MW), until the fuel use at CT-3 ceases.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-90)

5. Air Pollution Control Equipment

a. The permittee shall continuously operate and maintain a water injection system to meet the emission limits specified for nitrogen oxides (NO_X) in Attachment IIA, Special Condition C.6. Water injection shall be initiated during the startup sequence of CT-3 and may be terminated at the beginning of or during the shutdown sequence of CT-3.

b. After completion of the startup sequence of CT-3 and until the beginning of the shutdown sequence of CT-3, the following water-to-fuel mass ratios, on a one (1) hour basis, shall be maintained:

WATER INJECTION RATES

Combustion Turbine % Peak Load	Ratio lb-water/lb-fuel
100 (24.66 MW)	1.04
75 – less than (<) 100 (18.495 MW – < 24.66 MW)	0.94
50 – < 75 (12.33 MW – < 18.495 MW)	0.87
< 50 (< 12.33 MW)	0.72

c. For operating periods during which CT-3 operates at multiple loads where multiple water-to-fuel mass ratios apply, the applicable water-to-fuel mass ratio shall be determined based on the load that corresponded to the lowest minimum water-to-fuel mass ratio.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-90)

6. Maximum Emission Limits

a. Except during the startup and shutdown sequences, the permittee shall not discharge or cause the discharge into the atmosphere from CT-3, nitrogen oxides (NO_X as NO_2), sulfur dioxide (SO_2), particulate matter (PM/PM_{10}), carbon monoxide (CO), and volatile

organic compounds (VOCs) in excess of the following limits for any three (3) hour averaging period:

COMBUSTION TURBINE GENERATOR, UNIT CT-3

	Maximum Emission Limit (3-hour Average)	
Compound	**(lbs/hr)**	**(ppmvd @ 15 percent O_2)**
NO_X [a]	42.3	42
SO_2	110	79
PM_{10}	19.7	0.045 [b]
CO		
100% Peak Load (24.66 MW)	26.8	44
75% - < 100% Peak Load (18.495 MW - < 24.66 MW)	56.4	123
50% - < 75% Peak Load (12.33 MW - < 18.495 MW)	181.0	566
< 50% Peak Load (< 12.33 MW)	475.6	2386
VOCs [c]		
100% Peak Load (24.66 MW)	0.8	2.5
75% - < 100% Peak Load (18.495 MW - < 24.66 MW)	2.6	11.8
50% - < 75% Peak Load (12.33 MW - < 18.495 MW)	28.1	178
< 50% Peak Load (< 12.33 MW)	297.6	3025

[a] Measured as nitrogen dioxide (NO_2).
[b] gr/dscf @ 12 percent carbon dioxide (CO_2).
[c] Measured as methane (CH_4).

b. For operating periods during which CT-3 operates at multiple loads where multiple CO emission standards apply, the applicable CO emissions limit shall be determined in accordance with 40 CFR §60.4380(b)(3).
c. The Department, with U.S. EPA's concurrence, may revise the allowable emission limitation for NO_X, SO_2, PM/PM_{10}, CO, and VOCs after reviewing the performance test results required under Attachment IIA, Section F.

d. If NO_x, SO_2, PM/PM_{10}, CO, or VOCs emission limit is revised, the difference between the applicable emission limit set forth above and the revised lower emission limit shall not be allowed as an emission offset for future construction or modification.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-90)

7. Visible Emissions

a. CT-3 shall be operated with a continuous opacity monitoring system (COMS) in accordance with Attachment IIA, Special Condition No. D.3.b. Visible emission 40 CFR Part 60, Appendix A, Method 9 will govern during, breakdowns, repair, or maintenance of the COMS.

b. For any six (6) minute averaging period, CT-3 shall not exhibit visible emissions of twenty (20) percent opacity or greater, except as follows: during start-up, shutdown, or equipment breakdown, CT-3 may exhibit visible emissions no greater than sixty (60) percent opacity for a period aggregating not more than six (6) minutes in any sixty (60) minute period. In the event of equipment breakdown, the equipment shall be shut down within sixty (60) minutes if the opacity problem cannot be corrected within the six (6) minute period.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-32, §11-60.1-90, CFR §60.13; SIP §11-60-24)[2]

8. Alternate Operating Scenario

The terms and conditions under each operating scenario shall meet all applicable requirements, including special conditions of this permit.

a. Upon receiving written approval from the Department, the permittee may replace the combustion turbine generator with a temporary replacement unit in the event of a sudden malfunction or a planned major overhaul. The temporary replacement unit shall comply with all applicable permit conditions. The following provisions shall be adhered to:

i. A request for the replacement unit shall be submitted in accordance with Attachment IIA, Special Condition No. E.8.a;
ii. The unit is replaced with a combustion turbine of the same make, model, and size;
iii. The temporary replacement unit shall comply with all conditions of the permit applicable to CT-3, including all air pollution control requirements, operating restrictions, and emission limits;
iv. CT-3 shall be repaired and returned to service at the same location in a timely manner; and

v. Removal and return information shall be submitted in accordance with Attachment IIA, Special Condition No. E.8.b.

b. During emergency load conditions, CT-3 may operate between 100% and 110% peak load. Emergency load conditions shall be defined as the sudden loss of a power generating unit due to equipment malfunction or breakdown. The operation of CT-3 over 100% peak load shall not exceed thirty (30) minutes in duration and shall not exceed the emission limits specified in Attachment IIA, Special Condition No. C.6. The permittee shall record in a log the date, time, and the duration that the turbine operated under this scenario. The log shall also identify the nature that caused the emergency load condition.

c. Upon submitting a written request and receiving approval from the Department, the permittee may burn an alternative fuel, including waste oil, provided the permittee demonstrates compliance with all applicable State and Federal requirements and applicable conditions of this CSP. The alternative fuel shall be burned only temporarily, and shall not result in an increase in emissions of any air pollutant or in the emission of any air pollutant not previously emitted. The permittee shall not be allowed to switch fuels unless all of the following information is provided:

i. Reason for using the alternate fuel;
ii. Specific type of fuel;
iii. Consumption rate of the fuel;
iv. Fuel blending rate;
v. Emissions calculations;
vi. Ambient air quality analyses verifying that State Ambient Air Quality Standards (SAAQS) will be met;
vii. Fuel storage; and
viii. Plan to monitor and record the fuel analyses and consumption.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-90)

9. Demonstration Project

a. The permittee shall provide sufficient space for the installation of a selective catalytic reduction (SCR) system in the design of CT-3.

b. In conjunction with the demonstration project, an independent consultant, mutually acceptable to the permittee and the Department shall be retained to undertake an analysis of alternative technologies to control emissions of NO_x including the latest results of the demonstration project, SCR, and dry low NO_x combustion technologies. The analysis will assess the availability and feasibility of the alternative technologies on a worldwide basis, and will assess the energy, environmental (including ambient air quality benefits) and economic impacts, and other costs associated with the use of each technology at CT-3. The analysis shall be funded by the permittee and will be conducted under the supervision of the Department. The permittee shall have the

opportunity to assist in preparing the scope of work for the analysis and through the Department to review and comment upon the work product prior to the completion and acceptance by the Department.

c. The Department and U.S. EPA shall review the results of the demonstration project and the analysis of alternative control technologies based on the criteria specified in Attachment IIA, Special Condition No. C.9.b. Based on this review, the Department may require the permittee to use at Puna for CT-3, either the SCR system or an alternative control technology if demonstrated to be technically feasible and if supported by the results of the analysis prepared in accordance with the criteria specified in Attachment IIA, Special Condition No. C.9.b. In this event, the Department with the concurrence of U.S. EPA may revise this CSP to reflect the new lower emission rates and operating parameters associated with the alternative control technology.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-11, §11-60.1-90)

Section D. Monitoring and Recordkeeping Requirements

1. Records

All records, including support information, shall be maintained for **at least five (5) years** from the date of the monitoring sample, measurement, test, report, or application. Support information includes all maintenance, inspection, and repair records, and copies of all reports required by this permit. These records shall be true, accurate, and maintained in a permanent form suitable for inspection and made available to the Department or its representative(s) upon request.

(Auth.: HAR §11-60.1-3, §11-60.1-11, §11-60.1-90)

2. Fuel Specification

a. The sulfur content of the fuel to be fired in CT-3 shall be determined by sampling each delivery prior to being combined with the existing fuel supply or alternate sampling option in accordance with 40 CFR, Appendix D to Part 75, Sections 2.2.3, 2.2.4.1, 2.2.4.2, and 2.2.4.3. The analysis may be performed by the permittee, supplier, or other qualified third party lab. The analysis shall be performed using one of the American Society for Testing and Materials (ASTM) methods: D129-00, D2622-98, D4294-02, D1266-98, D5453-00, D1552-01, D7039 or a more current version of these ASTM methods.

b. Fuel delivery receipts shall be maintained, showing the supplier, fuel type, date of delivery, and amount (in gallons) of fuel delivered to the facility for subsequent transfer to CT-3 covered under this permit.

c. The permittee shall maintain records of each fuel additive used in the fuel to be fired in CT-3.
d. The permittee shall maintain records on the total amount of fuel oil fired in CT-3 on a daily, as applicable, and monthly basis.
e. A summary of the above records shall be reported on an annual basis.

(Auth.: HAR §11-60.1-3, §11-60.1-11, §11-60.1-90)

3. Continuous Monitoring Systems (CMS)

a. NO_x and CO

i. The permittee shall, at its own expense, install, calibrate, maintain, and operate continuous emissions monitoring systems (CEMS) for CT-3 to monitor and record NO_X (as NO_2), CO, and CO_2 or O_2 concentrations in the stack gases. The system shall meet the requirements of 40 CFR §60.13 and 40 CFR Part 60, Appendixes B and F. If CO_2 is measured with the CEMS to adjust the pollutant concentration, the CO_2 correction factor calculations listed in 40 CFR §60.4213(d)(3) shall be used to determine compliance with the applicable emission limit. The emissions for NO_X and CO shall be recorded in parts per million by volume dry (ppmvd) at fifteen percent (15%) O_2 and pounds per hour (lbs/hr). CEMS data shall be reduced to one-hour (1-hour) averages in accordance with 40 CFR §60.13(h) for all operating hours, including startup. For startup periods, emission rates shall be recorded in one-minute (1-minute) increments.
ii. Quarterly accuracy audits and daily calibration drift tests shall be performed in accordance with 40 CFR Part 60, Appendix F. Successive quarterly audits shall occur no closer than two (2) months. The relative accuracy test audit (RATA) must be conducted at least once every four calendar quarters. The test reports shall be postmarked by the **60th day** after completion of the RATA.

b. Opacity

i. The permittee shall, at its own expense, install, calibrate, maintain, and operate a COMS for CT-3 to monitor and record stack percent opacity in the stack gas. The system shall meet the requirements of 40 CFR §60.13 and 40 CFR Part 60, Appendixes B and F.
ii. A quality control program shall be developed and implemented to include, at a minimum, procedures for daily instrument zero and upscale drift checks, daily status indicator checks, quarterly performance audits, annual zero alignments, and a program for corrective action for a malfunctioning COMS in accordance with 40 CFR Part 60, Appendix F.

c. Operating Load

The permittee shall operate and maintain a CMS to measure and record the following for CT-3:

i. Date and time of startups and shutdowns, and their durations;
ii. Operating load of the combustion turbine at all times; and
iii. The total hours of operation during which CT-3 is operated below 6.165 MW, on a monthly and rolling twelve-month (12-month) basis to demonstrate compliance with Attachment IIA, Special Condition No. C.3.

d. Water Injection Rate

The permittee shall operate and maintain a CMS to measure and record the following for CT-3 to demonstrate compliance with Attachment IIA, Special Condition No. C.5:

i. Date and time when water injection is initiated and terminated; and
ii. Water-to-fuel mass ratios on a one (1) hour basis.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-90; 40 CFR §60.13 , 40 CFR Part 60, Appendixes B, and F.)

4. Inspection, Maintenance, and Repair Log

An inspection, maintenance, and repair log shall be maintained for the equipment covered under this permit. Inspection and replacement of parts and repairs shall be well documented. At a minimum, the following records shall be maintained:

a. The date of the inspection/maintenance/repair work;
b. A description of the part(s) inspected or repaired;
c. A description of the findings and any maintenance or repair work performed; and
d. The name and title of the personnel performing the inspection/work.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-90)

5. Performance Test

Performance tests shall be conducted on CT-3 pursuant to Attachment IIA, Section F. Test summaries and results shall be maintained in accordance with the requirements of this section.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-90)

6. Alternate Operating Scenario

   The permittee shall contemporaneously with making a change from one operating scenario to another, record in a log at the permitted facility, the scenario under which it is operating.

   (Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-90)

Section E. Notification and Reporting Requirements

1. Standard Conditions Reporting

   Notification and reporting pertaining to the following events shall be done in accordance with Attachment I, Standard Condition Nos. 16, 17, and 24, respectively:

   a. Intent to shut down air pollution control equipment for necessary scheduled maintenance while the plant is still in operation;
   b. Emissions of air pollutants in violation of HAR, Chapter 11-60.1 or this permit (excluding technology-based emission exceedances due to emergencies); and
   c. Permanent discontinuance of construction, modification, relocation, or operation of the facility covered by this permit.

   (Auth.: HAR §11-60.1-8, §11-60.1-15, §11-60.1-16, §11-60.1-90; 40 CFR §60.48c(a); SIP §11-60-10, §11-60-16)[1, 2]

2. Deviations

   The permittee shall report in writing within **five (5) working days** any deviations from permit requirements, including those attributable to upset conditions, the probable cause of such deviations and any corrective actions or preventive measures taken. Corrective actions may include a requirement for additional source testing, more frequent monitoring, or could trigger implementation of a corrective action plan.

   (Auth.: HAR §11-60.1-3, §11-60.1-15, §11-60.1-16, §11-60.1-90)

3. Excess Emissions

   The permittee shall submit **semi-annually** to the Department and U.S. EPA, Region 9, an excess emissions and monitoring systems performance report and/or summary report for CT-3 in accordance with 40 CFR §§60.7(c) and (d).

   a. If the total duration of excess emissions for the reporting period is less than one (1) percent of the total operating time for the reporting period and CMS downtime for the reporting period is less than five (5) percent of the total operating time for the reporting

period, only the summary report form shall be submitted and the excess emission report described in 40 CFR §60.7(c) need not be submitted unless requested by the Department.

b. If the total duration of excess emissions for the reporting period is one (1) percent or greater of the total operating time for the reporting period or the total CMS downtime for the reporting period is five (5) percent or greater of the total operating time for the reporting period, the summary report form and the excess emission report described in 40 CFR §60.7(c) shall both be submitted. The excess emissions report shall include the following information:

   i. The magnitude of excess emissions computed in accordance with 40 CFR §60.13(h), any conversion factors used, the date and time of commencement and completion of each time period of excess emissions, and the corresponding load of CT-3. The process operating time during the reporting period.
   ii. Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of CT-3. The nature and cause of any malfunction (if known) and the corrective action taken or preventive measures adopted.
   iii. The date and time identifying each period during which the CEMS was inoperative except for zero and span checks, and the nature of the system repairs or adjustments.
   iv. When no excess emissions have occurred or the CEMS has not been inoperative, repaired, or adjusted, such information shall be stated in the report.

c. For purposes of this permit, excess emissions shall be defined as follows:

   i. Any three (3) hour period during which the average emissions of NO_X or CO, as measured by the CEMS, exceed the emission limits set forth in Attachment IIA, Special Condition No. C.6;
   ii. Any one (1) hour period during which the average water-to-fuel ratio, as measured by the CEMS, falls below the water-to-fuel ratio at the corresponding operating load specified in Attachment IIA, Special Condition No. C.5. For operating periods during which CT-3 operates at multiple loads where multiple water-to-fuel mass ratios apply, the applicable water-to-fuel mass ratio shall be determined based on the load that corresponded to the lowest minimum water-to-fuel mass ratio; and
   iii. Any opacity measurements, as measured by the COMS, exceeding the opacity limits and corresponding averaging times set forth in Attachment IIA, Special Condition No. C.7.b.

   Excess emissions indicated by the CMS shall be considered violations of the applicable emission limit for the purposes of this permit.

d. All reports shall be postmarked by the **30th day** following the end of each semi-annual calendar period (January 1 - June 30 and July 1 - December 31). The enclosed **Excess Emission and Monitoring System Performance (CEMS) Summary Report** form shall be submitted.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-90, §11-60.1-161; 40 CFR §60.7)[1]

4 Monitoring Reports

The permittee shall submit **semi-annually** the following reports to the Department. The reports shall be submitted within **sixty (60) days** after the end of each semi-annual calendar period (January 1 - June 30 and July 1 - December 31), and shall be signed and dated by a responsible official. The following enclosed forms or equivalent form, shall be used for reporting:

Monitoring Report Form: Combustion Turbine; and
Monitoring Report Form: Fuel Certification

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-11, §11-60.1-90)

5. Annual Emissions Reports

As required by Attachment IV, Annual Emissions Reporting Requirements, and in conjunction with the requirements of Attachment III, Annual Fee Requirements, the permittee shall report **annually** the total tons per year emitted of each regulated air pollutant, including hazardous air pollutants. The reporting of annual emissions is due within **sixty (60) days** following the end of each calendar year. The following enclosed form, or equivalent form, shall be used for reporting:

Annual Emissions Report Form: Combustion Turbine Generator, Black Start Engine Generator and Boiler

Upon the written request of the permittee, the deadline for reporting of annual emissions may be extended, if the Department determines that reasonable justification exists for the extension.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-11, §11-60.1-90)

6. Compliance Certification

During the permit term, the permittee shall submit at least **annually** to the Department and U.S. EPA, Region 9, the attached **Compliance Certification Form** pursuant to HAR,§11-60.1-86. The permittee shall indicate whether or not compliance is being met

with each term or condition of this permit. The compliance certification shall include, at a minimum, the following information:

a. The identification of each term or condition of the permit that is the basis of the certification;
b. The compliance status;
c. Whether compliance was continuous or intermittent;
d. The methods used for determining the compliance status of the source currently and over the reporting period;
e. Any additional information indicating the source's compliance status with any applicable enhanced monitoring and compliance certification, including the requirements of Section 114(a)(3) of the Clean Air Act or any applicable monitoring and analysis provisions of Section 504(b) of the Clean Air Act;
f. Brief description of any deviations including identifying as possible exceptions to compliance any periods during which compliance is required and in which the excursion or exceedances as defined in 40 CFR 64 occurred; and
g. Any additional information as required by the Department, including information to determine compliance.

The compliance certification shall be submitted within **sixty (60) days** after the end of each calendar year, and shall be signed and dated by a responsible official.

Upon written request of the permittee, the deadline for submitting the compliance certification may be extended, if the Department determines that reasonable justification exists for the extension.

(Auth.: HAR §11-60.1-4, §11-60.1-86, §11-60.1-90)

7. Source Performance Test

a. At least **thirty (30) days** prior to conducting a source performance test pursuant to Attachment IIA, Section F.1, the permittee shall submit a performance test plan in accordance with Attachment IIA, Special Condition No. F.1.b.
b. Within **sixty (60) days** after completion of a source performance test pursuant to Attachment IIA, Section F.1, the permittee shall submit a test report in accordance with Attachment IIA, Special Condition No. F.1.c.

(Auth.: HAR §11-60.1-3, §11-60.1-90, §11-60.1-161, 40 CFR 60.8)[1]

8. Alternate Operating Scenario

a. The permittee shall submit a written request and receive prior written approval from the Department before exchanging CT-3 with a temporary replacement unit. The written request shall identify, at a minimum, the reasons for the replacement of CT-3 from the

site of operation and the estimated time period/dates for the temporary replacement, make, model, type, and size of the temporary unit, emissions data, and stack parameters.

b. Prior to the removal and return of CT-3, the permittee shall submit to the Department written documentation on the removal and return dates and on the make, size, model, and serial numbers for both the temporary replacement unit and the installed unit.

c. The permittee shall submit a written request and receive prior written approval from the Department before firing CT-3 on an alternate fuel. The written request shall include the information identified in Attachment IIA, Special Condition No. C.8.c.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-90)

Section F. Testing Requirements

1. On an **annual** basis, or at such times as may be specified by the Department, the permittee shall, at his own expense, conduct or cause to be conducted performance tests on CT-3. The source performance test (SPT) shall be conducted for SO_2, PM/PM_{10}, and VOCs.

   a. All performance tests shall be conducted at 25%, 50%, 75%, and 100% of peak load or at the highest achievable load point if 100% of peak load cannot be physically achieved. The following test methods, U.S. EPA approved equivalent methods, or alternate methods with prior written approval from the Department shall be used:

      i. Methods 1-4 and 6C or Method 20 for the emissions of SO_2;
      ii. Methods 1-5 for the emissions of PM/PM_{10}; and
      iii. Methods 1-4 and 25A, for the emissions of VOC (Method 18 may be used as an alternative to Method 25A).

   (Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-11, §11-60.1-90, §11-60.1-161, SIP §11-60.15, 40 CFR 60.8)[1,2]

   b. At least **thirty (30) days** prior to conducting a performance test, the permittee shall submit a written performance test plan to the Department and U.S. EPA, Region 9, that includes date(s) of the test, test duration, test locations, test methods, source operation, and other parameters that may affect the test results. Such a plan shall conform to U.S. EPA guidelines including quality assurance procedures. A test plan or quality assurance plan that does not have the approval of the Department may be grounds to invalidate any test and require a retest.

c. Within **sixty (60) days** after completion of a performance test, the permittee shall submit to the Department and U.S. EPA, Region 9, the test report which shall include the operating conditions of CT-3 at the time of the test, analysis of the fuel (if applicable), summarized test results, comparative results with the permit emission limits, and other pertinent field and laboratory data.

d. Upon written request and justification, the Department may waive the requirement for, or a portion of, a specific performance test. The waiver request is to be submitted prior to the required test and must include documentation justifying such action. Documentation should include, but is not limited to, the results of the prior performance test indicating compliance by a wide margin, documentation of continuing compliance, and further that operations of the source have not changed since the previous source test.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-11, §11-60.1-90, §11-60.161, SIP §11-60.6, 40 CFR 60.8, 40 CFR 60.335, 40 CFR 60, App. A)[1,2]

2. The performance test on CT-3 shall consist of three (3) separate runs using the applicable test method. For the purpose of determining compliance with an applicable regulation, the arithmetic mean of the results from the three (3) runs shall apply.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-11, §11-60.1-90, §11-60.1-161, SIP §11-60.15, 40 CFR 60.8)[1,2]

3. The permittee, at its own expense, shall be responsible for installing and providing the necessary ports in stacks or ducts and other safe and proper sampling and testing facilities as may be necessary for the determination of the air pollutants emissions. The Department may monitor the tests.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-11, §11-60.1-90, SIP §11-60.15, 40 CFR 60.8, 40 CFR 60.335)[1,2]

4. Any deviations from these conditions, test methods, or procedures as stated above and in the submitted test plan, may be cause for rejection of the test results unless such deviations are approved by the Department before the tests.

(Auth.: HAR §11-60.1-11, §11-60.1-90, SIP §11-60.15, 40 CFR 60.8)[1,2]

Section G. Agency Notification

Any document (including reports) required to be submitted by this CSP shall be done in accordance with Attachment I, Standard Condition No. 28.

(Auth.: HAR §11-60.1-4, §11-60.1-90)

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[1]The citations to the Code of Federal Regulations (CFR) identified under a particular condition, indicate that the permit condition complies with the specified provision(s) of the CFR. Due to the integration of the preconstruction and operating permit requirements, permit conditions may incorporate more stringent requirements than those set forth in the CFR.

[2]The citations to the State Implementation Plan (SIP) identified under a particular condition, indicate that the permit condition complies with the specified provision(s) of the SIP.

ATTACHMENT IIB: SPECIAL CONDITIONS –
BLACK START DIESEL ENGINE GENERATOR
COVERED SOURCE PERMIT NO. 0235-01-C

Issuance Date: October 12, 2018 **Expiration Date: October 11, 2023**

In addition to the Standard Conditions of the Covered Source Permit, the following Special Conditions shall apply to the permitted facility:

Section A. Equipment Description

1. Attachment IIB encompasses the following equipment and associated appurtenances:

Unit	Description
PBSG1	600 kW Black Start Diesel Engine Generator Unit, Model No. PBSG1, Serial No. 5A9885R

(Auth.: HAR §11-60.1-3)

2. The permittee shall permanently attach an identification tag or name plate on the equipment listed above, which identifies the model number, serial number, and manufacturer. The identification tag or name plate shall be attached to the equipment at a conspicuous location.

(Auth.: HAR §11-60.1-5, §11-60.1-90)

Section B. Applicable Federal Regulations

1. PBSG1 is subject to the provisions of the following federal regulations:

   a. 40 Code of Federal Regulations (CFR) Part 63, National Emission Standards for Hazardous Air Pollutants for Source Categories, Subpart A, General Provisions; and
   b. 40 CFR Part 63, National Emission Standards for Hazardous Air Pollutants for Source Categories, Subpart ZZZZ, National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines.

(Auth.: HAR §11-60.1-3, §11-60.1-90, §11-60.1-174; 40 CFR §63.1, §63.6585)[1]

2. The permittee shall comply with all applicable requirements of these standards, including all emission and operating limits, monitoring, recordkeeping, notification, reporting, and testing requirements. The major requirements of these standards are detailed in the special conditions of this permit.

(Auth.: HAR §11-60.1-3, §11-60.1-90, §11-60.1-174; 40 CFR Part 63)[1]

Section C. Operational and Emissions Limitations

1. Operation

   a. PBSG1 shall be maintained in good operating condition at all times with scheduled inspections and maintenance as recommended by the manufacturer and as needed.
   b. The permittee shall comply with the following requirements for PBSG1:

      i. Change oil and filter every 500 hours of operation or annually, whichever comes first (an oil analysis program as described in 40 CFR §63.6625(i) may be utilized in order to extend the specified oil change requirement);
      ii. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary;
      iii. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary;
      iv. Minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed thirty (30) minutes; and
      v. Operate and maintain the diesel engine generator according to the manufacturer's emission-related written instructions or develop a maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.

   (Auth.: HAR §11-60.1-3, §11.60.1-5, §11-60.1-38, §11-60.1-90, §11-60.1-161; 40 CFR §63.6603, §63.6625, §63.6640, §63.6675)[1,2]

2. Fuel Specifications

   a. PBSG1 shall only be fired on no. 2 diesel fuel with a maximum sulfur content not to exceed 0.4% by weight.
   b. Fuel additives (that do not increase emissions) may be used to reduce corrosion, control biological growth, enhance combustion, etc. Fuel additives used shall not contain any hazardous air pollutants.

   (Auth.: HAR §11-60.1-3, §11-60.1-38, §11-60.1-90; 40 CFR §63.6604)[1]

3. Operating Hours

   The maximum operating hours of PBSG1 shall not exceed 300 hours in any rolling twelve-month (12-month) period.

   (Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-90)

4. Alternate Operating Scenario

   a. Upon submitting a written request and receiving approval from the Department of Health, the permittee may burn an alternative fuel, including waste oil, provided the permittee demonstrates compliance with all applicable State and Federal requirements and applicable conditions of this CSP. The alternative fuel shall be burned only temporarily, and shall not result in an increase in emissions of any air pollutant or in the emission of any air pollutant not previously emitted. The permittee shall not be allowed to switch fuels unless all of the following information is provided:

      i. Reasons for using the alternative fuel;
      ii. Specific type of fuel provided;
      iii. Consumption rate of the fuel;
      iv. Fuel blending rate;
      v. Emissions calculations;
      vi. Ambient air quality analysis verifying that State Ambient Air Quality Standards (SAAQS) will be met;
      vii. Fuel storage; and
      viii. Plan to monitor and record the fuel analyses and consumption.

   b. The terms and conditions under each alternative operating scenario shall meet all applicable requirements including all conditions in this permit.

      (Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-90)

Section D. Monitoring and Recordkeeping Requirements

1. Records

   All records, including support information, shall be maintained for **at least five (5) years** from the date of the monitoring sample, measurement, test, report, or application. Support information includes all maintenance, inspection, and repair records, and copies of all reports required by this permit. These records shall be true, accurate, and maintained in a permanent form suitable for inspection and made available to the Department or its representative(s) upon request.

   (Auth.: HAR §11-60.1-3, §11-60.1-11, §11-60.1-90)

2. Fuel Specification

   a. The sulfur content of the fuel to be fired in PBSG1 shall be determined by sampling each delivery prior to being combined with the existing fuel supply or alternate sampling option in accordance with 40 CFR, Appendix D to Part 75, Sections 2.2.3, 2.2.4.1, 2.2.4.2, and 2.2.4.3. The analysis may be performed by the permittee, supplier, or other qualified third party lab. The analysis shall be performed using one of the American Society for Testing and Materials (ASTM) methods: D129-00, D2622-98,

D4294-02, D1266-98, D5453-00, D1552-01, D7039 or a more current version of these ASTM methods.

b. Fuel delivery receipts shall be maintained, showing the supplier, fuel type, date of delivery, and amount (in gallons) of fuel delivered to the facility for subsequent transfer to PBSG1 covered under this permit.
c. The permittee shall maintain records on the total amount of fuel oil fired in PBSG1 on an annual basis for the purpose of annual emission reporting.
d. The permittee shall maintain records on each fuel additive used in PBSG1.
e. A summary of the above records shall be reported on an annual basis.

(Auth.: HAR §11-60.1-3, §11-60.1-11, §11-60.1-90)

3. Hours of Operation

The permittee shall install, operate, and maintain a non-resetting hour meter on PBSG1 for the continuous and permanent recording of the total operating hours of PBSG1 for the purpose of showing compliance with Attachment IIB, Special Condition No. C.3. The non-resetting meter(s) shall not allow the manual resetting or other manual adjustments of the meter readings. The installation of any new non-resetting meters or the replacement of any existing non-resetting meters shall be designed to accommodate a minimum of five (5) years of equipment operation, considering any operational limitations, before the meter returns to a zero reading.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-11, §11-60.1-90)

4. Monthly Records

The permittee shall monitor and maintain records of the total hours of operation of PBSG1, on a monthly and rolling twelve-month (12-month) basis to demonstrate compliance with Attachment IIB, Special Condition No. C.3. Monthly records for PBSG1 shall include:

a. Date of meter reading;
b. Meter reading at the beginning of each month;
c. Total hours of operation for each month; and
d. Total hours of operation on a rolling twelve-month (12-month) basis.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-11, §11-60.1-90)

5. Inspection, Maintenance, and Repair Log

   An inspection, maintenance, and repair log shall be maintained for the equipment covered under this permit. Inspection and replacement of parts and repairs shall be well documented. At a minimum, the following records shall be maintained:

   a. The activities in compliance with Attachment IIB, Special Condition No. 1.b;
   b. The date of the inspection/maintenance/repair work;
   c. A description of the part(s) inspected or repaired;
   d. A description of the findings and any maintenance or repair work performed; and
   e. The name and title of the personnel performing the inspection/work.

   (Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-90)

6. Alternate Operating Scenario

   The permittee shall submit a written request and receive prior written approval from the Department before firing PBSG1 on an alternate fuel. The written request shall include the information identified in Attachment IIB, Special Condition No. C.4.

   (Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-90)

Section E. Notification and Reporting Requirements

1. Standard Conditions Reporting

   Notification and reporting pertaining to the following events shall be done in accordance with Attachment I, Standard Condition Nos. 17 and 24, respectively:

   a. Emissions of air pollutants in violation of HAR, Chapter 11-60.1 or this permit (excluding technology-based emission exceedances due to emergencies); and
   b. Permanent discontinuance of construction, modification, relocation, or operation of the facility covered by this permit.

   (Auth.: HAR §11-60.1-8, §11-60.1-15, §11-60.1-16, §11-60.1-90; SIP §11-60-10, §11-60-16)[2]

2. Deviations

The permittee shall report in writing within **five (5) working days** any deviations from permit requirements, including those attributable to upset conditions, the probable cause of such deviations and any corrective actions or preventive measures taken. Corrective actions may include a requirement for additional source testing, more frequent monitoring, or could trigger implementation of a corrective action plan.

(Auth.: HAR §11-60.1-3, §11-60.1-15, §11-60.1-16, §11-60.1-90)

3. Monitoring Reports

The permittee shall submit **semi-annually** the following reports to the Department. The reports shall be submitted within **sixty (60) days** after the end of each semi-annual calendar period (January 1 - June 30 and July 1 - December 31), and shall be signed and dated by a responsible official. The following enclosed forms, or equivalent forms, shall be used for reporting:

Monitoring Report Form: Fuel Certification;
Monitoring Report Form: Operating Hours – Black Start Diesel Generator; and
Monitoring Report Form: Opacity Exceedances.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-11, §11-60.1-90)

4. Annual Emissions Reports

As required by Attachment IV and in conjunction with the requirements of Attachment III, Annual Fee Requirements, the permittee shall submit **annually** the total tons per year emitted of each regulated air pollutant, including hazardous air pollutants and greenhouse gases. The reporting of annual emissions is due **within sixty (60) days** following the end of each calendar year. The following enclosed forms, or equivalent forms, shall be used for reporting:

Annual Emissions Report Form: Combustion Turbine Generator, Black Start Diesel Engine Generator and Boiler

Upon the written request of the permittee, the deadline for reporting of annual emissions may be extended, if the Department determines that reasonable justification exists for the extension.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-90)

5. Compliance Certification

During the permit term, the permittee shall submit at least **annually** to the Department and U.S. EPA, Region 9, the attached **Compliance Certification Form** pursuant to HAR, Subsection 11-60.1-86. The permittee shall indicate whether or not compliance is being met with each term or condition of this permit. The compliance certification shall include, at a minimum, the following information:

a. The identification of each term or condition of the permit that is the basis of the certification;
b. The compliance status;
c. Whether compliance was continuous or intermittent;
d. The methods used for determining the compliance status of the source currently and over the reporting period;
e. Any additional information indicating the source's compliance status with any applicable enhanced monitoring and compliance certification, including the requirements of Section 114(a)(3) of the Clean Air Act or any applicable monitoring and analysis provisions of Section 504(b) of the Clean Air Act;
f. Brief description of any deviations including identifying as possible exceptions to compliance any periods during which compliance is required and in which the excursion or exceedances as defined in 40 CFR 64 occurred; and
g. Any additional information as required by the Department, including information to determine compliance.

The compliance certification shall be submitted within **sixty (60) days** after the end of each calendar year, and shall be signed and dated by a responsible official.

Upon written request of the permittee, the deadline for submitting the **Compliance Certification Form** may be extended, if the Department determines that reasonable justification exists for the extension.

(Auth.: HAR §11-60.1-4, §11-60.1-86, §11-60.1-90)

6. Alternate Operating Scenario

The permittee shall submit a written request and receive prior written approval from the Department before firing PBSG1 on an alternate fuel. The written request shall identify, at a minimum, the type of fuel proposed, reasons for using the alternate fuel, and emissions data.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-90)

Section F. Agency Notification

Any document (including reports) required to be submitted by this CSP shall be done in accordance with Attachment I, Standard Condition No. 28.

(Auth.: HAR §11-60.1-4, §11-60.1-90)

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[1]The citations to the Code of Federal Regulations (CFR) identified under a particular condition, indicate that the permit condition complies with the specified provision(s) of the CFR. Due to the integration of the preconstruction and operating permit requirements, permit conditions may incorporate more stringent requirements than those set forth in the CFR.

[2]The citations to the State Implementation Plan (SIP) identified under a particular condition, indicate that the permit condition complies with the specified provision(s) of the SIP.

ATTACHMENT IIC: SPECIAL CONDITIONS – BOILER
COVERED SOURCE PERMIT NO. 0235-01-C

Issuance Date: October 12, 2018 **Expiration Date: October 11, 2023**

In addition to the Standard Conditions of the Covered Source Permit, the following Special Conditions shall apply to the permitted facility:

Section A. Equipment Description

1. Attachment IIC encompasses the following equipment and associated appurtenances:

Unit	Description
Boiler	15.5 MW Combustion Engineering Boiler, Model No. VU-40, 249 MMBtu/hr;
DC	Barron Base III multi-cyclone dust collector, duct from boiler exhaust, Model No. 120-14, manufactured in November 1980.

(Auth.: HAR §11-60.1-3)

2. The permittee shall permanently attach an identification tag or name plate on the equipment, which identifies the model number, serial number, and manufacturer. The identification tag or name plate shall be attached to the equipment at a conspicuous location.

(Auth.: HAR §11-60.1-5, §11-60.1-90)

Section B. Applicable Federal Regulations

1. The Boiler is subject to the provisions of the following federal regulations:

   a. 40 CFR Part 52, Approval and Promulgation of Implementation Plans, Subpart M, Hawaii, §52.633, Visibility protection;
   b. 40 CFR Part 63, National Emission Standards for Hazardous Air Pollutants (NESHAP) for Source Categories, Subpart A, General Provisions; and
   c. 40 CFR Part 63, NESHAP for Source Categories, Subpart JJJJJJ, NESHAP for Industrial, Commercial, and Institutional Boilers Area Sources.

(Auth.: HAR §11-60.1-3, §11-60.1-90, §11-60.1-161, §11-60.1-174;
40 CFR §51.308, §52.633, §63.1, §63.11193)[1, 3]

2. The permittee shall comply with all applicable provisions of these standards, including all emission limits, notification, testing, monitoring, and reporting requirements. The major requirements of these standards are detailed in the special conditions of this permit.

(Auth.: HAR §11-60.1-3, §11-60.1-90, §11-60.1-161, §11-60.1-174; 40 CFR Part 60, Part 63, Part 64)[1]

Section C. Operational and Emission Limitations

1. Fuel Specifications

   a. The Boiler shall be fired on No. 2 diesel, No. 6 fuel oil with 2.0% max sulfur content by weight, or specification (spec) used oil blended with Nos. 2 diesel or 6 fuel oil, with a maximum sulfur content not to exceed 2.0% by weight.
   b. The permittee shall not burn more than 200,000 gallons of spec used oil meeting the requirements in Attachment IIC, Special Condition No. C.3 in any rolling twelve-month (12-month) period.
   c. Fuel additives (that do not increase emissions) may be used to reduce corrosion, control biological growth, enhance combustion, etc. Fuel additives used shall not contain any hazardous air pollutants.

   (Auth.: HAR §11-60.1-3, §11-60.1-38, §11-60.1-90, §11-60.1-161)[1]

2. Boiler Operation

   a. The Boiler and associated air pollution control equipment shall be properly maintained and kept in good operating condition at all times with scheduled inspection and maintenance as specified by the manufacturer, 40 CFR Part 63, Subpart JJJJJJ and as needed.
   b. The permittee shall conduct tune-ups every five (5) years for the Boiler in accordance with 40 CFR Part 63, §63.11223. Each tune-up must be conducted no more than sixty-one (61) months after the previous tune-up. Procedures for conducting tune-ups are specified in Attachment IIC, Special Condition No. D.5.
   c. The Boiler shall not be operated unless its Multicyclone Dust Collector is operational.

   (Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-90; 40 CFR §63.11196, §63.11201, §63.11223)[1]

3. Specification (Spec) Used Oil

   a. The permit conditions prescribed herein may be updated at any time by the Department to conform to State or Federal promulgated rules on spec used oil.
   b. This permit shall not release the permittee from compliance with all applicable State and Federal rules and regulations on the handling, transporting, storing, and burning of used oil.
   c. This permit does not authorize the permittee to burn hazardous waste. The permittee shall not burn the used oil if declared or determined to be hazardous waste.
   d. The used oil shall be obtained from equipment owned, operated, or maintained by the permittee and shall consist of used oil, mixtures of used oil, and liquid substances containing used oil in accordance with HAR Title 11, Chapter 279.
   e. Used oil may be obtained from other sources, provided written notification identifying the new source is submitted to the Department and approved prior to

accepting the used oil. Requests for obtaining used oil from other sources shall be in accordance with Attachment IIC, Special Condition No. E.9.

f. Used oil shall be sampled and analyzed before using it as a fuel for the boiler. Used oil samples shall be taken in such a manner that sampling is representative of the used oil collected.

g. The following constituents/properties of the specification used oil shall not exceed the specified limits listed below:

Constituent/Property	Allowable Limit
Arsenic	5 ppm maximum
Cadmium	2 ppm maximum
Chromium	10 ppm maximum
Lead	100 ppm maximum
Total Halogens	1000 ppm maximum
Sulfur	2% maximum by weight
Flash Point	100°F minimum
Polychlorinated Biphenyls (PCB)	< 2 ppm

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-38, §11-60.1-90; 40 CFR §761.3, §279.11)[1]

4. Visible Emissions

For any six (6) minute averaging period, the boiler shall not exhibit visible emissions of forty (40) percent opacity or greater, except as follows: during start-up, shutdown, or equipment breakdown, the boiler may exhibit visible emissions not greater than sixty (60) percent opacity for a period aggregating not more than six (6) minutes in any sixty (60) minute period.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-32, §11-60.1-90, SIP §11-60-24)[2]

5. Regional Haze – Sulfur Dioxide (SO_2) Emissions Cap

a. Total combined SO_2 emissions from the Puna Generating Station, Boiler and Kanoelehua Hill Generating Station, Boilers Hill 5 and Hill 6, shall not exceed 3,550 tons in any rolling twelve-month (12-month) period.

b. Compliance with the Regional Haze Emissions Cap of Attachment IIC, Special Condition No. C.5.a is required at all times on and after **December 31, 2018**.

6. Alternate Operating Scenario

a. Upon submitting a written request and receiving approval from the Department, the permittee may burn an alternative fuel, including waste oil, provided the permittee demonstrates compliance with all applicable State and Federal requirements and applicable conditions of this covered source permit.

The alternative fuel shall be burned only temporarily, and shall not result in an increase in emissions of any air pollutant or in the emission of any air pollutant not previously emitted. The permittee shall not be allowed to switch fuels unless all of the following information is provided:

i. Reasons for using the alternative fuel;
ii. Specific type of fuel provided;
iii. Consumption rate of the fuel;
iv. Fuel blending rate;
v. Emissions calculations;
vi. Ambient air quality analyses verifying that State Ambient Air Quality Standards (SAAQS) will be met;
vii. Fuel storage; and
viii. Plan to monitor and record the fuel analyses and consumption.

b. The terms and conditions under each alterative operating scenario shall meet all applicable requirements including all conditions of the permit.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-90)

Section D. Monitoring and Recordkeeping Requirements

1. Records

All records, including support information, shall be maintained for **at least five (5) years** from the date of the monitoring sample, measurement, test, report, or application. Support information includes all maintenance, inspection, and repair records, and copies of all reports required by this permit. These records shall be true, accurate, and maintained in a permanent form suitable for inspection and made available to U.S. EPA, the Department, or its representative(s) upon request.

(Auth.: HAR §11-60.1-3, §11-60.1-11, §11-60.1-90; 40 CFR 52.633)[1]

2. Fuel Consumption

A non-resetting fuel metering system or tank strapping gauge shall be installed, operated, and maintained for the permanent recording of the total gallons of each type of fuel fired in the Boiler. The non-resetting meter shall not allow the manual resetting or other manual adjustments of the meter readings. The installation of any new non-resetting meters or the replacement of any existing non-resetting meters shall be designed to accommodate a minimum of five (5) years of equipment operation, considering any operational limitations, before the meter returns to a zero reading. For monitoring with tank gauges, monthly usage of each fuel fired shall be calculated using daily tank strapping measurements. The following information shall be recorded on a monthly and rolling twelve-month (12-month) basis for each fuel type fired in the Boiler:

a. Date of meter readings;
b. Beginning and ending meter readings for each month;
c. Type of fuel;
d. Total gallons of each of fuel consumed for each month; and
e. Total gallons of each of fuel consumed on a rolling twelve-month (12-month) basis.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-11, §11-60.1-90)

3. Fuel Specification

a. The fuel to be fired in the Boiler shall be sampled and tested in accordance with the most current American Society for Testing and Materials (ASTM) methods. A representative sample of each batch of fuel received shall be analyzed for its sulfur content and heat value following ASTM D4057. The samples shall be analyzed for the total sulfur content of the fuel using ASTM D129, or alternatively D1266, D1552, D2622, D4294, D5453 or D7039. The analysis may be performed by the permittee, the supplier, or other third party lab.
b. A representative sample shall be taken of the used oil prior to burning the fuel in the boiler. Each sample shall be submitted in a timely manner to a qualified laboratory and an analysis obtained for the constituents/properties for which limits are specified in Attachment IIC, Special Condition No. C.3.g.
c. The permittee shall maintain records of each laboratory analysis performed pursuant to Attachment IIC, Special Condition Nos. C.3.f and D.3.b.
d. Fuel delivery receipts shall be maintained, showing the supplier, fuel type, date of delivery, and amount (in gallons) of fuel delivered to the facility for subsequent transfer to the boiler covered under this permit.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-11, §11-60.1-90)

4. Regional Haze – SO_2 Emissions Cap

a. The permittee shall calculate and record on a monthly basis the SO_2 emissions for each boiler unit (Puna Generating Station, Boiler, and the Kanoelehua Hill Generating Station, Boilers Hill 5 and Hill 6) for the preceding month based on the fuel sulfur content, fuel heating value, and total gallons of fuel burned.
b. The permittee shall calculate and record the total combined SO_2 emissions for all boiler units (Puna Generating Station, Boiler, and Kanoelehua Hill Generating Station, Boilers Hill 5 and Hill 6) on a monthly and rolling twelve-month (12-month) basis.
c. The permittee shall maintain, monthly, the following documents:

i. The total gallons of each type of fuel fired in the boiler for the month;
ii. The information used to calculated SO_2 emissions for the month such as the sulfur .content of the fuel, density of the fuel, fuel heating value, and the basis for the sulfur content used (fuel analysis showing date sample collected, type of fuel, sulfur content, and fuel heating value).

(Auth.: HAR §11-60.1-3, §11-60.1-90; 40 CFR 52.633)[1]

5. Boiler Tune-ups

The tune-up must be conducted while burning the type of fuel (or fuels in the case of the Boiler that routinely burns two types of fuels at the same time) that provided the majority of the heat input to the boiler over the twelve (12) months prior to the tune-up. The tune-up shall be conducted in accordance with 40 CFR §63.11223 as follows:

a. As applicable, inspect the burner, and clean or replace any components of the burner as necessary. The permittee may delay the burner inspection until the next scheduled unit shutdown or first outage, not to exceed seventy-two (72) months from the previous inspection for the boiler.
b. Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available.
c. Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly.
d. Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available.
e. Measure the concentrations in the effluent stream of CO in parts per million by volume, and oxygen in volume percent before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer.
f. Maintain on-site a report containing the information:

    i. The concentrations of CO in the effluent stream in parts per million by volume and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the Boiler;
    ii. A description of any corrective actions taken as a part of the tune-up of the Boiler; and
    iii. The type and amount of fuel used over the twelve (12) months prior to the tune-up of the boiler, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel use by each unit.

g. If the boiler is not operating on the required date for a tune-up, the tune-up must be conducted within thirty (30) days of startup.

(Auth.: HAR §11-60.1-3, §11-60.1-90; 40 CFR §63.11223)[1]

6. Boiler Records

The permittee shall maintain records required by 40 CFR 63, Subpart JJJJJJ, for the Boiler as specified in 40 CFR §63.11225(c) and (d) including the following:

a. A copy of each notification and report submitted to comply with 40 CFR Part 63, Subpart JJJJJJ, and all documentation supporting any Notification of Compliance Status submitted;
b. Records identifying the boiler, the date of tune-up, the procedures followed for tune-up, and the manufacturer's specifications to which the boiler was tuned;
c. A copy of the energy assessment report;
d. Records of the occurrence and duration of each malfunction of the boiler;
e. Records of actions taken during periods of malfunction to minimize emissions in accordance with the general duty to minimize emissions in §63.11205(a), including corrective actions to restore the malfunctioning boiler to its normal or usual manner of operation; and
f. Records must be in a form suitable and readily available for expeditious review. Each record must be kept for **five (5) years** following the date of each recorded action. Each record must be kept on-site or be accessible from a central location by computer or other means that instantly provide access at the site for **at least two (2) years** after the date of each recorded action. Records may be kept off site for the remaining **three (3) years**.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-11, §11-60.1-90; 40 CFR §63.11225)[1]

7. Inspection, Maintenance, and Repair Log

An inspection, maintenance, and repair log shall be maintained for the equipment covered under this permit. Inspection and replacement of parts and repairs shall be well documented. At a minimum, the following records shall be maintained:

a. The date of the inspection/maintenance/repair work;
b. A description of the part(s) inspected or repaired;
c. A description of the findings and any maintenance or repair work performed; and
d. The name and title of the personnel performing the inspection/work.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-90)

8. Visible Emissions

The permittee shall conduct **monthly** (calendar month) visible emissions observations for the boiler by a certified reader in accordance with 40 CFR Part 60, Appendix A, Method 9, or U.S. EPA approved equivalent methods, or alternative methods with prior written approval from the Department. For each month, two (2) consecutive six (6) minute observations shall be taken at fifteen (15) second intervals. Records shall be completed and maintained in accordance with the *Visible Emissions Form Requirements*.

(Auth.: HAR §11-60.1-3, §11-60.1-32, §11-60.1-90)

9. Alternate Operating Scenario

   a. The permittee shall, contemporaneously with making a change from one operating scenario to another, in accordance with Attachment IIC, Special Condition No. C.6, record in a log at the permitted facility, the scenario under which it is operating.
   b. The permittee shall maintain all records corresponding to the implementation of an alternate operating scenario specified in Attachment IIC, Special Condition No. C.6.

   (Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-90)

Section E. Notification and Reporting Requirements

1. Standard Conditions Reporting

   Notification and reporting pertaining to the following events shall be done in accordance with Attachment I, Standard Condition Nos. 16, 17, and 24, respectively:

   a. Intent to shut down air pollution control equipment for necessary scheduled maintenance while the plant is still in operation;
   b. Emissions of air pollutants in violation of HAR, Chapter 11-60.1 or this permit (excluding technology-based emission exceedances due to emergencies); and
   c. Permanent discontinuance of construction, modification, relocation, or operation of the facility covered by this permit.

   (Auth.: HAR §11-60.1-8, §11-60.1-15, §11-60.1-16, §11-60.1-90; 40 CFR §60.48c(a); SIP §11-60-10, §11-60-16)[1, 2]

2. Deviations

   The permittee shall report to the Department in writing **within five (5) working days** any deviations from permit requirements, including those attributable to upset conditions, the probable cause of such deviations and any corrective actions or preventive measures taken. Corrective actions may include a requirement for additional source testing, more frequent monitoring, or could trigger implementation of a corrective action plan.

   (Auth.: HAR §11-60.1-3, §11-60.1-15, §11-60.1-16, §11-60.1-90)

3. Notifications

   The permittee shall notify U.S. EPA, Region 9, of any exceedance of the emission cap specified in Attachment IIC, Special Condition No. C.6, **within thirty (30) days** of such exceedance.

   (Auth.: HAR §11-60.1-3, §11-60.1-15, §11-60.1-16, §11-60.1-90; 40 CFR §52.633)[2, 3]

4. Monitoring Reports

   a. The permittee shall submit **semi-annually** the following reports to the Department. The reports shall be submitted within **sixty (60) days** after the end of each semi-annual calendar period (January 1 - June 30 and July 1 - December 31), and shall be signed and dated by a responsible official. The following enclosed forms, or equivalent, shall be used for reporting:

      Monitoring Report Form: Fuel Certification;
      Monitoring Report Form: Specification Used Oil - Boiler; and
      Monitoring Report Form: Opacity Exceedances.

   b. The permittee shall submit within **sixty (60) days** after each boiler tune-up, the attached **Monitoring Report Form: Boiler Tune-up**, or equivalent form, to the Department.

   c. **By March 1, 2019**, and within **sixty (60) days** following the end of each calendar year thereafter, the permittee shall report **semi-annually** to the Department and U.S. EPA, Region 9:

      i. the total tons of SO_2 emitted from each of the boilers at Puna Generating Station (Boiler) and the Kanoelehua Hill Generating Station (Hill 5 and Hill 6) during the previous calendar year on a monthly basis;
      ii. the total combined tons of SO_2 emitted from the boilers at Puna Generating Station (Boiler) and the Kanoelehua Hill Generating Station (Hill 5 and Hill 6) during the previous calendar year on a monthly and rolling twelve-month (12-month) basis.

   The report shall be signed and dated by a responsible official. The enclosed form **Monitoring Report Form: Sulfur Dioxide Emissions,** or equivalent form shall be used for reporting.

   (Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-11, §11-60.1-90; 40 CFR 52.633)[1, 3]

5. Annual Emissions Reports

   As required by Attachment IV, Annual Emissions Reporting Requirements, and in conjunction with the requirements of Attachment III, Annual Fee Requirements, the permittee shall report **annually** the total tons per year emitted of each regulated air pollutant, including hazardous air pollutants. The reporting of annual emissions is due within **sixty (60) days** following the end of each calendar year. The following enclosed form, or equivalent, shall be used for reporting:

   Annual Emissions Report Form: Combustion Turbine Generator, Black Start Engine Generator and Boiler

Upon the written request of the permittee, the deadline for reporting of annual emissions may be extended, if the Department determines that reasonable justification exists for the extension.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-11, §11-60.1-90)

6. Compliance Certification

During the permit term, the permittee shall submit at least **annually** to the Department and U.S. EPA, Region 9, the attached **Compliance Certification Form** pursuant to HAR, Subsection 11-60.1-86. The permittee shall indicate whether or not compliance is being met with each term or condition of this permit. The compliance certification shall include, at a minimum, the following information:

a. The identification of each term or condition of the permit that is the basis of the certification;
b. The compliance status;
c. Whether compliance was continuous or intermittent;
d. The methods used for determining the compliance status of the source currently and over the reporting period;
e. Any additional information indicating the source's compliance status with any applicable enhanced monitoring and compliance certification, including the requirements of Section 114(a)(3) of the Clean Air Act or any applicable monitoring and analysis provisions of Section 504(b) of the Clean Air Act;
f. Brief description of any deviations including identifying as possible exceptions to compliance any periods during which compliance is required and in which the excursion or exceedances as defined in 40 CFR 64 occurred; and
g. Any additional information as required by the Department, including information to determine compliance.

The compliance certification shall be submitted within **sixty (60) days** after the end of each calendar year, and shall be signed and dated by a responsible official.

Upon written request of the permittee, the deadline for submitting the compliance certification may be extended, if the Department determines that reasonable justification exists for the extension.

(Auth.: HAR §11-60.1-4, §11-60.1-86, §11-60.1-90)

7. Five-year Compliance Certification Report

The permittee shall:

a. Prepare, by March 1 of the year following the calendar year during which a tune-up is completed, the enclosed **Five (5) Year Compliance Certification Report Form: Boiler**. The report shall include a description of deviations, the time periods during which the deviations occurred, and the corrective actions taken.

b. **Submit the report** to the Department or U.S. EPA, Region 9, **upon request**; and
c. **Submit the report** to the Department and the U.S. EPA, Region 9, **by March 15 if there are any deviations** from the applicable requirements of 40 CFR Part 63, Subpart JJJJJJ.

(Auth.: HAR §11-60.1-4, §11-60.1-86, §11-60.1-90; 40 CFR §63.11225)[1]

8. Alternate Operating Scenario

The permittee shall submit a written request and receive prior written approval from the Department before firing the boiler on an alternate fuel. The written request shall include the information identified in Attachment IIC, Special Condition No. C.6.a.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-90)

9. Spec Used Oil

The permittee shall submit a written request and receive prior written approval from the Department before accepting used oil from another source pursuant to Attachment IIC, Special Condition No. C.3.e. For each written request, the permittee shall identify the new source and provide a fuel supplier certification that includes the name of the fuel supplier, a statement from the fuel supplier that the used oil complies with the specifications of Attachment IIC, Special Condition No. C.3.g and properties of the used oil demonstrating it meets the requirements of Attachment IIC, Special Condition No. C.3.g.

Section F. Agency Notification

Any document (including reports) required to be submitted by this CSP shall be done in accordance with Attachment I, Standard Condition No. 28.

(Auth.: HAR §11-60.1-4, §11-60.1-90)

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[1]The citations to the Code of Federal Regulations (CFR) identified under a particular condition, indicate that the permit condition complies with the specified provision(s) of the CFR. Due to the integration of the preconstruction and operating permit requirements, permit conditions may incorporate more stringent requirements than those set forth in the CFR.
[2]The citations to the State Implementation Plan (SIP) identified under a particular condition, indicate that the permit condition complies with the specified provision(s) of the SIP.
[3]The citations to the Federal Implementation Plan (FIP) identified under a particular condition, indicate that the permit condition complies with the specified provision(s) of the FIP.

ATTACHMENT II – INSIG
SPECIAL CONDITIONS – INSIGNIFICANT ACTIVITIES
COVERED SOURCE PERMIT NO. 0235-01-C

Issuance Date: October 12, 2018 **Expiration Date:** October 11, 2023

In addition to the Standard Conditions of the Covered Source Permit, the following Special Conditions shall apply to the permitted facility:

Section A. Equipment Description

This attachment encompasses insignificant activities listed in HAR §11-60.1-82(f) and (g) for which provisions of this permit and HAR Subchapter 2, General Prohibitions apply.

(Auth.: HAR §11-60.1-3)

Section B. Operational Limitations

1. The permittee shall take measures to operate applicable insignificant activities in accordance with the provisions of HAR, Subchapter 2 for visible emissions, fugitive dust, incineration, process industries, sulfur oxides from fuel combustion, storage of volatile organic compounds, volatile organic compound water separation, pump and compressor requirements, and waste gas disposal.

   (Auth.: HAR §11-60.1-3, §11-60.1-82, §11-60.1-90)

2. The Department may at any time require the permittee to further abate emissions if an inspection indicates poor or insufficient controls.

   (Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-82, §11-60.1-90)

Section C. Monitoring and Recordkeeping Requirements

1. The Department reserves the right to require monitoring, recordkeeping, or testing of any insignificant activity to determine compliance with the applicable requirements.

   (Auth.: HAR §11-60.1-3, §11-60.1-90)

2. All records shall be maintained for **at least five (5) years** from the date of any required monitoring, recordkeeping, testing, or reporting. These records shall be true, accurate, and maintained in a permanent form suitable for inspection and made available to the Department or its authorized representative upon request.

   (Auth.: HAR §11-60.1-3, §11-60.1-11, §11-60.1-90)

Section D. Notification and Reporting

Compliance Certification

During the permit term, the permittee shall submit at least **annually** to the Department and U.S. EPA, Region 9, the attached **Compliance Certification Form** pursuant to HAR, Subsection 11-60.1-86. The permittee shall indicate whether or not compliance is being met with each term or condition of this permit. The compliance certification shall include, at a minimum, the following information:

1. The identification of each term or condition of the permit that is the basis of the certification;
2. The compliance status;
3. Whether compliance was continuous or intermittent;
4. The methods used for determining the compliance status of the source currently and over the reporting period;
5. Any additional information indicating the source's compliance status with any applicable enhanced monitoring and compliance certification, including the requirements of Section 114(a)(3) of the Clean Air Act or any applicable monitoring and analysis provisions of Section 504(b) of the Clean Air Act;
6. Brief description of any deviations including identifying as possible exceptions to compliance any periods during which compliance is required and in which the excursion or exceedances as defined in 40 CFR 64 occurred; and
7. Any additional information as required by the Department, including information to determine compliance.

The compliance certification shall be submitted within **sixty (60) days** after the end of each calendar year, and shall be signed and dated by a responsible official.

Upon written request of the permittee, the deadline for submitting the compliance certification may be extended, if the Department determines that reasonable justification exists for the extension.

In lieu of addressing each emission unit as specified in the **Compliance Certification Form**, the permittee may address insignificant activities as a single unit provided compliance is met with all applicable requirements. If compliance is not totally attained, the permittee shall identify the specific insignificant activity and provide the details associated with the noncompliance.

(Auth.: HAR §11-60.1-4, §11-60.1-86, §11-60.1-90)

Section E. Agency Notification

Any document (including reports) required to be submitted by this CSP shall be done in accordance with Attachment I, Standard Condition No. 28.

(Auth.: HAR §11-60.1-4, §11-60.1-90)

ATTACHMENT III: ANNUAL FEE REQUIREMENTS
COVERED SOURCE PERMIT NO. 0235-01-C

Issuance Date: October 12, 2018 **Expiration Date: October 11, 2023**

The following requirements for the submittal of annual fees are established pursuant to Hawaii Administrative Rules (HAR), Title 11, Chapter 60.1, Air Pollution Control. Should HAR, Chapter 60.1, be revised such that the following requirements are in conflict with the provisions of HAR, Chapter 60.1, the permittee shall comply with the provisions of HAR, Chapter 60.1:

1. Annual fees shall be paid in full:

   a. Within **one-hundred twenty (120) days** after the end of each calendar year; and
   b. Within **thirty (30) days** after the permanent discontinuance of the covered source.

2. The annual fees shall be determined and submitted in accordance with Hawaii Administrative Rules, Chapter 11-60.1, Subchapter 6.

3. The annual emissions data for which the annual fees are based shall accompany the submittal of any annual fees and be submitted on forms furnished by the Department.

4. The annual fees and the emission data shall be mailed to:

State of Hawaii
Clean Air Branch
2827 Waimano Home Road, #130
Pearl City, HI 96782

ATTACHMENT IV: ANNUAL EMISSIONS REPORTING REQUIREMENTS
COVERED SOURCE PERMIT NO. 0235-01-C

Issuance Date: October 12, 2018 **Expiration Date: October 11, 2023**

In accordance with the Hawaii Administrative Rules, Title 11, Chapter 60.1, Air Pollution Control, the permittee shall report to the Department of Health the nature and amounts of emissions.

1. Complete the attached form(s):

   Annual Emissions Report Form: Combustion Turbine Generator, Black Start Diesel Engine Generator and Boiler

2. The reporting period shall be from January 1 to December 31 of each year. All reports shall be submitted to the Department within **sixty (60) days** after the end of each calendar year and shall be mailed to the following address:

   State of Hawaii
   Clean Air Branch
   2827 Waimano Home Road, #130
   Pearl City, HI 96782

3. The permittee shall retain the information submitted, including all emission calculations. These records shall be in a permanent form suitable for inspection, retained for a minimum of five (5) years, and made available to the Department upon request.

4. Any information submitted to the Department without a request for confidentiality shall be considered public record.

5. In accordance with HAR, Section 11-60.1-14, the permittee may request confidential treatment of specific information, including information concerning secret processes or methods of manufacture, by submitting a written request to the Director of Health and clearly identifying the specific information that is to be accorded confidential treatment.

COMPLIANCE CERTIFICATION FORM
COVERED SOURCE PERMIT NO. 0235-01-C
(CONTINUED, PAGE 1 OF ___)

Issuance Date: October 12, 2018 **Expiration Date: October 11, 2023**

In accordance with the Hawaii Administrative Rules, Title 11, Chapter 60.1, Air Pollution Control, the permittee shall report to the Department of Health the following certification at least annually, or more frequently as requested by the Department.

(Make Copies of the Compliance Certification Form for Future Use)

For Period: _____ Date: _____

Company/Facility Name: _____

Responsible Official (Print): _____

Title: _____

Responsible Official (Signature): _____

I certify that I have knowledge of the facts herein set forth, that the same are true, accurate, and complete to the best of my knowledge and belief, and that all information not identified by me as confidential in nature shall be treated by Department of Health as public record. I further state that I will assume responsibility for the construction, modification, or operation of the source in accordance with the Hawaii Administrative Rules, Title 11, Chapter 60.1, Air Pollution Control, and any permit issued thereof.

COMPLIANCE CERTIFICATION FORM
COVERED SOURCE PERMIT NO. 0235-01-C
(CONTINUED, PAGE 2 OF ___)

Issuance Date: October 12, 2018 **Expiration Date:** October 11, 2023

The purpose of this form is to evaluate whether or not the facility was in compliance with the permit terms and conditions during the covered period. If there were any deviations to the permit terms and conditions during the covered period, the deviation(s) shall be certified as *intermittent compliance* for the particular permit term(s) or condition(s). Deviations include failure to monitor, record, report, or collect the minimum data required by the permit to show compliance. In the absence of any deviation, the particular permit term(s) or condition(s) may be certified as *continuous compliance*.

Instructions:
Please certify Sections A, B, and C below for continuous or intermittent compliance. Sections A and B are to be certified as a group of permit conditions. Section C shall be certified individually for each operational and emissions limit condition as listed in the Special Conditions section of the permit (list all applicable equipment for each condition). Any deviations shall also be listed individually and described in Section D. The facility may substitute its own generated form in verbatim for Sections C and D.

A. Attachment I, Standard Conditions

Permit term/condition	Equipment	Compliance
All standard conditions	All Equipment listed in the permit	☐ Continuous ☐ Intermittent

B. Special Conditions - Monitoring, Recordkeeping, Reporting, Testing, and INSIG

Permit term/condition	Equipment	Compliance
All monitoring conditions	All Equipment listed in the permit	☐ Continuous ☐ Intermittent
Permit term/condition All recordkeeping conditions	Equipment All Equipment listed in the permit	Compliance ☐ Continuous ☐ Intermittent
Permit term/condition All reporting conditions	Equipment All Equipment listed in the permit	Compliance ☐ Continuous ☐ Intermittent
Permit term/condition All testing conditions	Equipment All Equipment listed in the permit	Compliance ☐ Continuous ☐ Intermittent
Permit term/condition All INSIG conditions	Equipment All Equipment listed in the permit	Compliance ☐ Continuous ☐ Intermittent

COMPLIANCE CERTIFICATION FORM
COVERED SOURCE PERMIT NO. 0235-01-C
(CONTINUED, PAGE ___ OF ___)

Issuance Date: October 12, 2018 **Expiration Date: October 11, 2023**

C. Special Conditions - Operational and Emissions Limitations

Each permit term/condition shall be identified in chronological order using attachment and section numbers (e.g., Attachment II, B.1, Attachment IIA, Special Condition No. B.1.f, etc.). Each piece of equipment shall be identified using the description stated in Section A of the Special Conditions (e.g., unit no., model no., serial no., etc.). Check all methods (as required by permit) used to determine the compliance status of the respective permit term/condition.

Permit term/condition	Equipment	Method	Compliance
		☐ monitoring ☐ recordkeeping ☐ reporting ☐ testing	☐ Continuous ☐ Intermittent
		☐ monitoring ☐ recordkeeping ☐ reporting ☐ testing	☐ Continuous ☐ Intermittent
		☐ monitoring ☐ recordkeeping ☐ reporting ☐ testing	☐ Continuous ☐ Intermittent
		☐ monitoring ☐ recordkeeping ☐ reporting ☐ testing	☐ Continuous ☐ Intermittent
		☐ monitoring ☐ recordkeeping ☐ reporting ☐ testing	☐ Continuous ☐ Intermittent
		☐ monitoring ☐ recordkeeping ☐ reporting ☐ testing	☐ Continuous ☐ Intermittent
		☐ monitoring ☐ recordkeeping ☐ reporting ☐ testing	☐ Continuous ☐ Intermittent

(Make Additional Copies if Needed)

COMPLIANCE CERTIFICATION FORM
COVERED SOURCE PERMIT NO. 0235-01-C
(CONTINUED, PAGE ___ OF ___)

Issuance Date: October 12, 2018 **Expiration Date:** October 11, 2023

D. Deviations

Permit Term/ Condition	Equipment / Brief Summary of Deviation	Deviation Period time (am/pm) & date (mo/day/yr)	Date of Written Deviation Report to DOH (mo/day/yr)
		Beginning: Ending:	
		Beginning: Ending:	
		Beginning: Ending:	
		Beginning: Ending:	
		Beginning: Ending:	
		Beginning: Ending:	
		Beginning: Ending:	

*Identify as possible exceptions to compliance any periods during which compliance is required and in which an excursion or exceedance as defined under 40 CFR 64 occurred.

(Make Additional Copies if Needed)

ANNUAL EMISSIONS REPORT FORM
COMBUSTION TURBINE GENERATOR, BLACK START
DIESEL ENGINE GENERATOR AND BOILER
COVERED SOURCE PERMIT NO. 0235-01-C
(PAGE 1 OF 2)

Issuance Date: October 12, 2018 **Expiration Date: October 11, 2023**

In accordance with the Hawaii Administrative Rules, Title 11, Chapter 60.1, Air Pollution Control, the permittee shall report to the Department of Health the nature and amounts of emissions:

(Make Copies for Future Use)

For Reporting Period:_____ Date:_____

Company Name:_____

Facility Name:_____

Equipment: Combustion Turbine Generator CT-3, Black Start Diesel Engine Generator PBSG1 and the Boiler

I certify that I have knowledge of the facts herein set forth, that the same are true, accurate, and complete to the best of my knowledge and belief, and that all information not identified by me as confidential in nature shall be treated by the Department of Health as public record.

Responsible Official (Print):_____

Title:_____ Phone Number:_____

Responsible Official (Signature):_____

1. Report the total fuel consumption and maximum sulfur content for each type of fuel fired during the calendar year:

CT-3			
Maximum Design Heat Input Rate	Fuel Type	Fuel Use (gallons)	Maximum Sulfur Content (% by weight)
275 MMBtu/hr			

PBSG1			
Capacity	Fuel Type	Fuel Use (gallons)	Maximum Sulfur Content (% by weight)
600 kW			

Boiler			
Maximum Design Heat Input Rate	Fuel Type	Fuel Use (gallons)	Maximum Sulfur Content (% by weight)
249 MMBtu/hr			

ANNUAL EMISSIONS REPORT FORM
COMBUSTION TURBINE GENERATOR, BLACK START DIESEL ENGINE GENERATOR AND BOILER
COVERED SOURCE PERMIT NO. 0235-01-C
(CONTINUED, PAGE 2 OF 2)

Issuance Date: October 12, 2018 **Expiration Date:** October 11, 2023

2. Report the type of air pollution control, pollutant(s) controlled, and control efficiency:

CT-3			
Type of Air Pollution Control	In Use?	Pollutant(s) Controlled	Control Efficiency / % Reduction

PBSG-1			
Type of Air Pollution Control	In Use?	Pollutant(s) Controlled	Control Efficiency / % Reduction

Boiler			
Type of Air Pollution Control	In Use?	Pollutant(s) Controlled	Control Efficiency / % Reduction

MONITORING REPORT FORM
FUEL CERTIFICATION
COVERED SOURCE PERMIT NO. 0235-01-C
(PAGE 1 OF 2)

Issuance Date: October 12, 2018 **Expiration Date: October 11, 2023**

In accordance with the Hawaii Administrative Rules, Title 11, Chapter 60.1, Air Pollution Control, the permittee shall report to the Department of Health the following information semi-annually:

(Make Copies for Future Use)

For Reporting Period:_____ Date:_____

Company Name:_____

Facility Name:_____

Equipment: **Combustion Turbine Generator CT-3, Black Start Diesel Engine Generator PBSG1 and the Boiler**

I certify that I have knowledge of the facts herein set forth, that the same are true, accurate, and complete to the best of my knowledge and belief, and that all information not identified by me as confidential in nature shall be treated by the Department of Health as public record.

Responsible Official (Print):_____

Title:_____ Phone Number:_____

Responsible Official (Signature):_____

1. Report the type of fuel and maximum sulfur content of the fuels fired in CT-3 for the reporting period:

Fuel Type	Maximum Sulfur Content (% by Weight)

2. Report the type of fuel and maximum sulfur content of the fuels fired in PBSG1 for the reporting period:

Fuel Type	Maximum Sulfur Content (% by Weight)

3. Report the type of fuel and the maximum sulfur content for each type of the fuel fired in the boiler for the reporting period:

Fuel Type	Maximum Sulfur Content (% by Weight)

MONITORING REPORT FORM
FUEL CERTIFICATION
COVERED SOURCE PERMIT NO. 0235-01-C
(CONTINUED, PAGE 2 OF 2)

Issuance Date: October 12, 2018 **Expiration Date:** October 11, 2023

4. Report the name and amount of fuel additives used for the reporting period

Name	Quantity

MONITORING REPORT FORM
COMBUSTION TURBINE
COVERED SOURCE PERMIT NO. 0235-01-C
(PAGE 1 OF 3)

Issuance Date: October 12, 2018 **Expiration Date: October 11, 2023**

In accordance with the Hawaii Administrative Rules, Title 11, Chapter 60.1, Air Pollution Control, the permittee shall report to the Department of Health the following information semi-annually:

(Make Copies for Future Use)

For Period:_____ Date:_____

Facility Name: _____

Equipment Location: _____

Equipment: Combustion Turbine Generator CT-3

I certify that I have knowledge of the facts herein set forth, that the same are true, accurate, and complete to the best of my knowledge and belief, and that all information not identified by me as confidential in nature shall be treated by Department of Health as public record.

Responsible Official (Print): _____

Title: _____

Responsible Official (Signature): _____

1. Provide the date, time, and duration when startup or shutdown periods of CT-3 exceeded twenty (20) minutes:

	Combustion Turbine CT-3			
Maximum Design Heat Input Rate/ Serial Number	Startup or Shutdown	Date	Time	Duration
275 MMBtu/hr				

MONITORING REPORT FORM
COMBUSTION TURBINE
COVERED SOURCE PERMIT NO. 0235-01-C
(CONTINUED, PAGE 2 OF 3)

Issuance Date: October 12, 2018 **Expiration Date: October 11, 2023**

2. Provide the total hours CT-3 operated below 25% of peak load (6.165 MW):

Combustion Turbine CT-3		
Month	Hours of Operation, Monthly Basis	Total Hours of Operation, Rolling 12-Month Basis
January		
February		
March		
April		
May		
June		
July		
August		
September		
October		
November		
December		

3. Report dates, times, and durations the water injection system was not initiated or terminated as specified in Attachment IIA, Special Condition No.C.5.a.

Water Injection System				
Startup or Shutdown	Date	Time	Duration (minutes)	Reason

MONITORING REPORT FORM
COMBUSTION TURBINE
COVERED SOURCE PERMIT NO. 0235-01-C
(CONTINUED, PAGE 3 OF 3)

Issuance Date: October 12, 2018 **Expiration Date:** October 11, 2023

4. Report dates, times, and durations the water to fuel mass ratio not maintained in accordance with Attachment IIA, Special Condition No.C.5.b.

Water Injection System				
Date	Time	Duration (minutes)	Ratio (lb-water/lb-fuel)	Reason

MONITORING REPORT FORM
OPERATING HOURS – BLACK START DIESEL ENGINE GENERATOR
COVERED SOURCE PERMIT NO. 0235-01-C

Issuance Date: October 12, 2018 **Expiration Date: October 11, 2023**

In accordance with the Hawaii Administrative Rules, Title 11, Chapter 60.1, Air Pollution Control, the permittee shall report to the Department of Health the following information semi-annually:

(Make Copies for Future Use)

For Reporting Period:_____ Date:_____

Company Name:_____

Facility Name:_____

Equipment: Black Start Diesel Engine Generator PBSG1

I certify that I have knowledge of the facts herein set forth, that the same are true, accurate, and complete to the best of my knowledge and belief, and that all information not identified by me as confidential in nature shall be treated by the Department of Health as public record.

Responsible Official (Print):_____

Title:_____ Phone Number:_____

Responsible Official (Signature):_____

1. Report the operating hours of PBSG1 for the reporting period:

Month	Hours of Operation, Monthly Basis	Total Hours of Operation, Rolling 12-Month Basis
January		
February		
March		
April		
May		
June		
July		
August		
September		
October		
November		
December		

MONITORING REPORT FORM
SPECIFICATION USED OIL -- BOILER
COVERED SOURCE PERMIT NO. 0235-01-C
(PAGE 1 OF 2)

Issuance Date: October 12, 2018 **Expiration Date: October 11, 2023**

In accordance with the Hawaii Administrative Rules, Title 11, Chapter 60.1, Air Pollution Control, the permittee shall report to the Department of Health the following information semi-annually:

(Make Copies for Future Use)

For Reporting Period:_____ Date:_____

Company Name:_____

Facility Name:_____

Equipment: the Boiler

I certify that I have knowledge of the facts herein set forth, that the same are true, accurate, and complete to the best of my knowledge and belief, and that all information not identified by me as confidential in nature shall be treated by the Department of Health as public record.

Responsible Official (Print):_____

Title:_____ Phone Number:_____

Responsible Official (Signature):_____

1. Report the total specification used oil consumption for the boiler for the reporting period:

Month	Total Specification Used Oil Consumption (gallons)	
	Monthly Basis	12-Month Rolling Basis
January		
February		
March		
April		
May		
June		
July		
August		
September		
October		
November		
December		

MONITORING REPORT FORM
SPECIFICATION USED OIL – BOILER
COVERED SOURCE PERMIT NO. 0235-01-C
(CONTINUED, 2 OF 2)

Issuance Date: October 12, 2018 **Expiration Date: October 11, 2023**

2. Report the maximum pollutant concentrations of the specification used oil analyzed during the reporting period:

Pollutant	Maximum Concentration (ppm)	Number of Exceedances	Notes
Arsenic			
Cadmium			
Chromium			
Lead			
Total Halogens			
Sulfur			
PCBs			

3. Report the minimum flash point in °F for the specification used oil analyzed during the reporting period: _____.

MONITORING REPORT FORM
BOILER TUNE-UP
COVERED SOURCE PERMIT NO. 0235-01-C
(PAGE 1 OF 2)

Issuance Date: October 12, 2018 **Expiration Date: October 11, 2023**

In accordance with the Hawaii Administrative Rules, Title 11, Chapter 60.1, Air Pollution Control, the permittee shall report to the Department of Health the following information within sixty (60) days after each boiler tune-up:

(Make Copies for Future Use)

For Period:_____ Date:_____

Company Name:_____

Facility Name:_____

I certify that I have knowledge of the facts herein set forth, that the same are true, accurate, and complete to the best of my knowledge and belief, and that all information not identified by me as confidential in nature shall be treated by the Department of Health as public record.

Responsible Official (Print):_____

Title:_____ Phone Number:_____

Responsible Official (Signature):_____

Boiler Description:_____

Date(s) of Boiler Tune-up:_____

1. Report the CO concentrations in the effluent stream in ppm, by volume, and oxygen in volume percent, before and after the tune-up of the boiler:

Boiler Before Tune-up	
CO Concentration (ppm by Volume)	Oxygen (Volume Percent)
Boiler After Tune-up	
CO Concentration (ppm by volume)	Oxygen (volume percent)

2. Report the corrective actions taken as part of the boiler tune-up for the reporting period:

Corrective Action Description

MONITORING REPORT FORM
BOILER TUNE-UP
COVERED SOURCE PERMIT NO. 0235-01-C
(CONTINUED, PAGE 2 OF 2)

Issuance Date: October 12, 2018 **Expiration Date:** October 11, 2023

3. Report the type and amount of fuel used over the 12 months prior to the tune-up of the boiler, but only if the unit was physically and legally capable of using more than one type of fuel during that period:

Types of Fuel Fired	Period of Consumption	Total Fuel Consumption	Units of Measure

4. Report the type of fuel fired in the boiler during the tune-up.

MONITORING REPORT FORM
SULFUR DIOXIDE EMISSIONS
COVERED SOURCE PERMIT NO. 0235-01-C

Issuance Date: October 12, 2018 **Expiration Date: October 11, 2023**

In accordance with the Hawaii Administrative Rules, Title 11, Chapter 60.1, Air Pollution Control, the permittee shall report to the Department of Health and U.S. EPA the following information annually.

For Reporting Period:_____ Date:_____

Company Name:_____

Facility Name:_____

I certify that I have knowledge of the facts herein set forth, that the same are true, accurate, and complete to the best of my knowledge and belief, and that all information not identified by me as confidential in nature shall be treated by the Department of Health as public record.

Responsible Official (Print):_____

Title:_____ Phone Number:_____

Responsible Official (Signature):_____

1. Report the sulfur dioxide (SO_2) emissions for the reporting period:

Month	Sulfur Dioxide SO_2 Emissions (tons)				
	SO_2 on Monthly Basis			Total Combined SO_2	
	Hill 5	Hill 6	Boiler	Monthly	12-Month Rolling Basis
January					
February					
March					
April					
May					
June					
July					
August					
September					
October					
November					
December					

5-Year COMPLIANCE CERTIFICATION REPORT FORM
BOILER
COVERED SOURCE PERMIT NO. 0235-01-C

Issuance Date: October 12, 2018 **Expiration Date: October 11, 2023**

In accordance with the Hawaii Administrative Rules, Title 11, Chapter 60.1, Air Pollution Control, and 40 Code of Federal Regulations, Part 60, Subpart JJJJJJ, the permittee shall complete and submit this report **at the frequency identified in Attachment IIC, Special Condition No. E.7.**

(Make Copies for Future Use)

For Period:_____ Date:_____

Company Name:_____

Facility Name:_____

I certify that I have knowledge of the facts herein set forth, that the same are true, accurate, and complete to the best of my knowledge and belief, and that all information not identified by me as confidential in nature shall be treated by the Department of Health as public record.

Responsible Official (Print):_____

Title:_____ Phone Number:_____

E-Mail Address:_____

Responsible Official (Signature):_____

1. Identify any deviations with all relevant standards and other requirements of 40 CFR Part 63, Subpart JJJJJJ, a description of the deviations, the time periods during which the deviations occurred, and the corrective actions taken:

Boiler Description	Date(s) of Deviation		Corrective Action Taken
	From	To	

If there were no deviation, state "no deviations" in the table above.

2. "This facility complies with the requirements of 40 CFR §63.11223 to conduct a five-year (5 year) tune-up, as applicable, of the boiler." Yes _____ No _____

3. Date of most recent boiler tune-up: _____

MONITORING REPORT FORM
OPACITY EXCEEDANCES
COVERED SOURCE PERMIT NO. 0235-01-C

Issuance Date: October 12, 2018 **Expiration Date:** October 11, 2023

In accordance with the Hawaii Administrative Rules, Title 11, Chapter 60.1, Air Pollution Control, the permittee shall report to the Department of Health the following information semi-annually:

(Make Copies for Future Use)

For Reporting Period:_____ Date:_____

Company Name:_____

Facility Name:_____

I certify that I have knowledge of the facts herein set forth, that the same are true, accurate, and complete to the best of my knowledge and belief, and that all information not identified by me as confidential in nature shall be treated by the Department of Health as public record.

Responsible Official (Print):_____

Title:_____ Phone Number:_____

Responsible Official (Signature):_____

Visible Emissions:

Report the following on the lines provided below: all date(s) and six (6) minute average opacity reading(s) which the opacity limit was exceeded during the monthly observations; or if there were no exceedances during the monthly observations, then write "no exceedances" in the comment column.

EQUIPMENT or EMISSION POINT DESCRIPTION	SERIAL/ID NO.	DATE	6 MIN. AVER. (%)	COMMENTS

EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE (CEMS)
SUMMARY REPORT
COVERED SOURCE PERMIT NO. 0235-01-C
(PAGE 1 OF 2)

Issuance Date: October 12, 2018 **Expiration Date: October 11, 2023**

In accordance with the Hawaii Administrative Rules, Title 11, Chapter 60.1, Air Pollution Control, the permittee shall report to the Department of Health the following information semi-annually:

(Make Copies for Future Use)

Company Name:_____

Facility Name:_____

Equipment Location:_____

Equipment Description:_____

Serial/ID Number:_____

Pollutant Monitored: _____

From: Date: _____ Time: _____

To: Date: _____ Time: _____

Emission Limitation: _____

Date of Last CEMS Certification/Audit: _____

Total Source Operating Time: _____

EMISSION DATA SUMMARY

1. Duration (Hours) of Excess Emissions in Reporting Period Due to:
   a. Startup/Shutdown..... _____
   b. Cleaning/Soot Blowdown..... _____
   c. Control Equipment Failure..... _____
   d. Process Problems..... _____
   e. Other Known Causes..... _____
   f. Unknown Causes..... _____
   g. Fuel Problems..... _____
   Number of incidents of excess emissions..... _____
2. Total Duration of Excess Emissions..... _____
3. Total Duration of Excess Emissions..... _____
   (% of Total Source Operating Time)

EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE (CEMS)
SUMMARY REPORT
COVERED SOURCE PERMIT NO. 0235-01-C
(CONTINUED, PAGE 2 OF 2)

Issuance Date: October 12, 2018 **Expiration Date: October 11, 2023**

CEMS PERFORMANCE SUMMARY

1. CEMS Downtime (Hours) in Reporting Period Due to:
   a. Monitor Equipment Malfunctions..... _____
   b. Non-Monitor Equipment Malfunctions..... _____
   c. Quality Assurance Calibration..... _____
   d. Other Known Causes..... _____
   e. Unknown Causes..... _____
   Number of incidents of monitor downtime..... _____
2. Total CEMS Downtime..... _____
3. Total CEMS Downtime..... _____
   (% of Total Source Operating Time)

CERTIFICATION by Responsible Official

I certify that I have knowledge of the facts herein set forth, that the same are true, accurate, and complete to the best of my knowledge and belief, and that all information not identified by me as confidential in nature shall be treated by the Department of Health as public record.

Responsible Official (Print):_____

Title:_____ Phone Number:_____

Responsible Official (Signature):_____

VISIBLE EMISSIONS FORM REQUIREMENTS
STATE OF HAWAII
COVERED SOURCE PERMIT NO. 0235-01-C

Issuance Date: October 12, 2018 **Expiration Date: October 11, 2023**

The ***Visible Emissions (VE) Form*** shall be completed **monthly** (*each calendar month*) for each equipment subject to opacity limits by a certified reader in accordance with 40 CFR Part 60, Appendix A, Method 9, or U.S. EPA approved equivalent methods, or alternative methods with prior written approval from the Department. The VE Form shall be completed as follows:

1. VE observations shall take place during the day only. The opacity shall be noted in five (5) percent increments (e.g., 25%).

2. Orient the sun within a 140 degree sector to your back. Provide a source layout sketch on the VE Form using the symbols as shown.

3. For VE observations of stacks, stand at least three (3) stack heights but not more than a quarter mile from the stack.

4. For VE observations of fugitive emissions from crushing and screening plants, stand at least 4.57 meters (15 feet) from the visible emissions source, but not more than a quarter mile from the visible emission source.

5. Two (2) consecutive six (6) minute observations shall be taken at fifteen (15) second intervals for each stack or emission point.

6. The six (6) minute average opacity reading shall be calculated for each observation.

7. If possible, the observations shall be performed as follows:

    a. Read from where the line of sight is at right angles to the wind direction.
    b. The line of sight shall not include more than one (1) plume at a time.
    c. Read at the point in the plume with the greatest opacity (without condensed water vapor), ideally while the plume is no wider than the stack diameter.
    d. Read the plume at fifteen (15) second intervals only. Do not read continuously.
    e. The equipment shall be operating at the maximum permitted capacity.

8. If the equipment was shut-down for that period, briefly explain the reason for shut-down in the comment column.

The permittee shall retain the completed VE Forms for recordkeeping. These records shall be in a permanent form suitable for inspection, retained for a minimum of five (5) years, and made available to the Department, or their representative upon request.

Any required initial and annual performance test performed in accordance with Method 9 by a certified reader shall satisfy the respective equipment's VE monitoring requirements for the month the performance test is performed.

VISIBLE EMISSIONS FORM
COVERED SOURCE PERMIT NO. 0235-01-C

Issuance Date: October 12, 2018 **Expiration Date:** October 11, 2023

(Make Copies for Future Use for Each Stack or Emission Point)

Company Name:_____

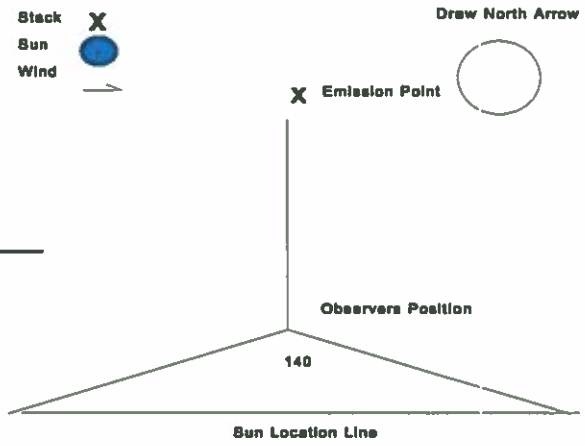
For stacks, describe equipment and fuel:_____

For fugitive emissions from crushers and screens, describe:

Fugitive emission point:_____

Plant Production (tons/hr):_____

(During observation)



Site Conditions:

Emission point or stack height above ground (ft):_____

Emission point or stack distance from observer (ft):_____

Emission color (black or white):_____

Plume background (objects and/or color):_____

Sky conditions (% cloud cover):_____

Wind speed (mph):_____

Temperature (EF):_____

Observer Name:_____

Certified? (Yes/No):_____

Observation Date and Start Time:_____

	Seconds				
MINUTES	0	15	30	45	COMMENTS
1					
2					
3					
4					
5					
6					
Six (6) Minute Average Opacity Reading (%):					

Observation Date and Start Time:_____

	Seconds				
MINUTES	0	15	30	45	COMMENTS
1					
2					
3					
4					
5					
6					
Six (6) Minute Average Opacity Reading (%):					

COVERED SOURCE PERMIT REVIEW
COVERED SOURCE PERMIT (CSP) No. 0235-01-C
Permit Application for Renewal No. 0235-02 and Minor Modification No. 0235-03

by Chenyan Song
January 15, 2018

Applicant: Hawaii Electric Light Company, Inc. (HELCO)

Facility: Puna Generating Station

Location: Puna Mill Road, Keaau, Hawaii
UTM: 286.65 km east, 2172.34 km north (Zone 5, NAD-83)

SIC Code: 4911 (Electrical Services)

Mailing Address: P.O. Box 1027
Hilo, HI 96721-1027

Contact	Name	Title	Phone & Mailing Address
Responsible Official	Jay Ignacio	President	(808) 969-0121 P.O. Box 1027, Hilo, HI 96721
	Brenner Munger	Manager, Environmental Department	(808) 543-4500 P.O. Box 2750, Honolulu, HI 96840
Other Contact	Karin Kimura	Senior Environmental Scientist	(808) 543-4522 P.O. Box 2750, Honolulu, HI 96840
	Norman Uchida	Interim Manager, Technical, Maintenance & Special Projects	(808) 969-0422 P.O. Box 1027, Hilo, HI 96721

1. BACKGROUND

Hawaii Electric Light owns and operates the Puna Generating Station in Keaau, Hawaii. Puna Generating Station provides electricity to the local power grid on the Big Island of Hawaii for public consumption through the combustion of fossil fuels. This facility houses one 20 MW simple-cycle Combustion Turbine (CT-3) with one 600 kW Black Start Diesel Engine Generator (PBSG1), and one 15.5 MW Boiler with a multi-cyclone dust collector. CT-3, PBSG1 and the boiler are permitted by the existing CSP 0235-01-C issued on November 15, 2002.

CT-3 is currently permitted to operate at various loads between 25% and 100% of peak loads for extended periods of time without hourly limitations (8760 hr/year). CT-3 is subject to 40 CFR Part 60 Subpart GG, New Source Performance Standards (NSPS) for Stationary Gas Turbines. It is a Prevention of Significant Deterioration (PSD) source. PBSG1 is limited to operating 300 hours in any rolling 12 months. It is an emergency start-up generator. The manufacturer suggest that it should be fired up every week for maintenance. Both CT-3 and PBSG1 are fired on No. 2 diesel with maximum 0.4% sulfur content by weight.

Same as CT-3, the boiler is permitted to operate at 8760 hours per year. Manufactured in 1970, the boiler is exempt from Title 40 CFR Part 60, NSPS Subpart D, Da, Db, and Dc because the boiler was in use before the NSPS Subparts were promulgated. The Boiler's max capacity is

limited to less than 250 MMBtu/hr by the fuel nozzle. A Multi-Cyclone Dust Collector was connected to the boiler because it previously fired bagasse and coal. Per current permit, the boiler fires residual No. 6 fuel oil, and specification (spec) used oil with maximum 2% sulfur content by weight, and the source performance tests (SPTs) are not required unless it is firing biomass or coal. This facility is a major stationary source.

On November 14, 2006, HELCO submitted renewal application for current CSP 0235-01-C. Since then, they submitted the renewal revisions dated on October 23 and November 5, 2008. On October 16, 2015, they filed an application for Minor Modification to the current CSP.

HELCO proposed changes:

HELCO requested to clarify the peak load for CT-3 is 24.66 MW in the renewal and permit CT-3 to operate below 25% (6.165 MW) of peak load with water injection for no more than sixty-six (66) hours in any rolling twelve-month (12-month) period to address system disturbance and frequency issues while in compliance with the emission limits set in existing CSP.

HELCO also proposed additional testing methods for performance tests on CT-3 and other miscellaneous changes such as updating permit conditions for consistency with current permit language and clarifying permit conditions.

Hawaii's Federal Implementation Plan for Regional Haze:

Hawaii's Federal Implementation Plan (FIP) for Regional Haze specifies a 3,550 ton per year sulfur dioxide (SO_2) emissions limit for the Puna, Kanoelehua Hill, and Shipman Generating Stations that operate in Hilo. This limit will be incorporated into each affected facility's permit to ensure reasonable progress for improving visibility in mandatory Class I areas. Hawaii's two mandatory Class I Areas are Haleakala National Park on Maui and Hawaii Volcanoes National Park on the Big Island (Hawaii). Since HELCO has permanently discontinued operations of the Shipman Generating Station, and the permit for this facility will be closed, only units form the Kanoelehua and Puna plants will be subject to the SO_2 emissions limit. Boilers subject to the limit are Hill 5 and Hill 6 from the Kanoelehua plant and Boiler 1 from the Puna plant.

2. EQUIPMENT DESCRIPTION

Unit	Equipment Description
CT-3	20 MW Nominal (24.66 MW Peak Load) General Electric Combustion Turbine Generator, Model # LM 2500, Serial # 481-651, 275 MMBtu/hr, fired on No. 2 diesel with maximum 0.4% sulfur content by weight;
PBSG1	600 kW Black Start Diesel Engine Generator, Model # PBSG1, Serial # 5A9885R, burning No. 2 diesel with max 0.4% sulfur by weight.
Boiler	15.5 MW Combustion Engineering Boiler, 249 MMBtu/hr, model VU-40, fired on diesel No.2, fuel oil No. 6, and spec used oil, with max 2% sulfur content by weight, manufactured in '70;
Cyclone	Barron Base III Multi-Cyclone Dust Collector, Model # 120-14, ducted from boiler exhaust.

3. AIR POLLUTION CONTROLS

GE specified water injection is used on CT-3, to reduce and control NO_X emissions to 42 ppmv at 15% O_2 dry, with a fuel bound nitrogen content of 0.015% or less.

The boiler exhaust is ducted through an 85% efficiency MultiCyclone Dust Collector to control particulate emissions.

Sulfur emissions are controlled by limiting the sulfur content of the fuel to 0.4% by weight for CT-3 and PBSG1, and 2% by weight for the boiler.

PM, PM_{10}, CO, and VOC emissions are controlled by combustion design and good combustion practice.

Emissions of any hazardous air pollutants are controlled by the use of No. 2 fuel oil for CT-3 and PBSG1, by the use of No. 6 fuel oil for the boiler, and combustion system design.

4. APPLICABLE REQUIREMENTS

4.1. Hawaii Administrative Rules (HAR)

Chapter 11-59, Ambient Air Quality Standards
Chapter 11-60.1 Air Pollution Control
- Subchapter 1, General Requirements
- Subchapter 2, General Prohibitions
  - 11-60.1-31, Applicability
  - 11-60.1-32, Visible Emissions
  - 11.60.1-33 Fugitive Dust
  - 11-60.1-38, Sulfur Oxides from Fuel Combustion
- Subchapter 5, Covered Sources
- Subchapter 6, Fees for Covered Sources, Noncovered Sources, and Agricultural Burning
  - 11-60.1-111 Definitions
  - 11-60.1-112 General Fee Provisions for Covered Sources
  - 11-60.1-113 Application Fees for Covered Sources
  - 11-60.1-114 Annual Fees for Covered Sources
  - 11-60.1-115 Basis of Annual Fees for Covered Sources
- Subchapter 8, Standards of Performance for Stationary Sources
  - 11-60.1-161 New Source Performance Standards
- Subchapter 9, Hazardous Air Pollutant Sources
- Subchapter 10, Field Citations

4.2. Department of Health (DOH) In-house Annual Emissions Reporting

DOH requests annual emissions reporting from those facilities that have facility-wide emissions exceeding in-house reporting levels and for all covered sources. Annual emissions reporting is required for this because this facility is a covered source and potential emissions from the facility do exceed the reporting thresholds as shown in the table below:

Pollutant	Potential Emissions (TPY)	DOH Reporting Levels (TPY)
CO	**2,156**	250
NO_X	**1,025**	25
SO_2	**2,882**	25
PM	**399**	25
PM-10	**399**	25
PM-2.5	**399**	-
VOC	**1,314**	25
HAP	**3.45**	5

4.3. Requirements for Preparation, Adoption, and Submittal of Implementation Plans, 40 CFR Part 51

Subpart A — Air Emission Reporting Requirements (AERR)

AERR determines the annual emissions reporting frequency based on the potential emissions (with the exception of lead, which is based on actual emissions) of each pollutant from the facility that emits at or above the triggering levels. As shown in the table below, potential emissions from the facility is beyond the trigger levels and thus, the facility is subject to annual emission reporting under AERR as a type A source.

Pollutant	Potential Emissions (TPY)	AERR Triggering Levels (TPY)	
		1 year cycle (type A sources)	3 year cycle (type B sources)
CO	**2,156**	2500	1000
NO_X	**1,025**	2500	100
SO_2	**2,882**	2500	100
PM	**399**	-	-
PM-10	**399**	250	100
PM-2.5	**399**	250	100
VOC	**1,314**	250	100

4.4. Approval and Promulgation of Implementation Plans, 40 CFR Part 52

Subpart M – Hawaii

Regional Haze Plan Provisions for the Puna Power Plants and the other associated HELCO generating stations are specified in 40 CFR §52.633 of Subpart M. The provisions include a 3,550 ton per year SO_2 emissions cap for the following electric generating units: Kanoelehua Hill Generating Station, Hill 5 and Hill 6; Puna Power Plant, Boiler 1, and Shipman Power Plant, Boilers S-3 and S-4.

4.5. New Source Performance Standards (NSPS), 40 Code of Federal Regulations (CFR) Part 60

Subpart GG — Standards of Performance for Stationary Gas Turbines

40 CFR Part 60 Subpart GG is applicable to stationary gas turbines with a heat input at peak load equal to or greater than 10 MMBtu/hr and facilities with such gas turbines commences construction, reconstruction, or modification after October 3, 1977. This facility is subject to this standard because CT-3 has the heat input capacity of 275 MMBtu/hr and it was installed on January 30, 1992.

4.6. National Emission Standards for Hazardous Air Pollutants for Source Categories (Maximum Achievable Control Technology (MACT)), 40 CFR Part 63

Subpart ZZZZ — National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

The black start diesel engine is subject to this standard because PBSG1 was constructed before June 12, 2006, and hence is an existing stationary RICE located at an area source of HAP emissions. The permittee must comply with the applicable emission limitations and operating limitations no later than May 3, 2013. However, as an emergency engine, this unit can be exempted from the requirements of this subpart except that it must operate in accordance with §63.6640 (f)(2) of Subpart ZZZZ.

Subpart JJJJJJ — National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources.

The boiler is subject to this because it is an existing unit located at an area source of HAP emissions and does not meet the exemption criteria defined in 40 CFR §63.11195.

5. NON-APPLICABLE REQUIREMENTS

5.1. Prevention of Significant Deterioration (PSD), 40 CFR 52.21

PSD review applies to new major stationary sources and major modifications to these types of sources. A PSD review was done in November 1991 for this facility. It is not subject to new PSD review because it is an existing major stationary source as defined and listed in HAR Title 11, Chapter 60.1, Subchapter 7 and 40 CFR Part 52, §52.21, for any single air pollutant and the proposed modification will not cause significant increases in emissions.

5.2. New Source Performance Standards (NSPS), 40 Code of Federal Regulations (CFR) Part 60

Subpart D — Standards of Performance for Fossil-Fuel Fired Steam Generators
Subpart Da — Standards of Performance for Electric Utility Steam Generating Units
Subpart Db — Standards of Performance for Industrial-Commercial-Institutional team Generating Units
Subpart Dc — Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units

The facility is not subject to 40 CFR Part 60 Subparts D, Da, Db, and Dc because the boiler was manufactured in 1970 and was in use before the NSPS Subparts were promulgated.

Subpart IIII — Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

The facility is not subject to 40 CFR Part 60 Subparts IIII because PBSG1 commenced construction before July 11, 2005.

Subpart KKKK – Standards of Performance for Stationary Combustion Turbines

The facility is not subject to 40 CFR Part 60 Subpart KKKK because CT-3 commenced construction, modification, or reconstruction before February 18, 2005:

- Both SO_2 and NO_X emission rates decrease with decreasing load. Operation of CT-3 below 25% of peak load will not increase the SO_2 or NO_X emission rates, and hence not considered as a modification for this subpart pursuant to 40 CFR §60.2 ; and

- Proposed operation of CT-3 below 25% of peak load with water injection will not require any physical changes. Thus, this proposed change will not be considered reconstruction as provided in 40 CFR §60.15.

5.3. National Emission Standards for Hazardous Air Pollutants (NESHAPS), 40 CFR Part 61

The facility is not a major stationary source of hazardous air pollutants (HAPs) and is not subject to any NESHAPS requirements under 40 CFR Part 61.

5.4. National Emission Standards for Hazardous Air Pollutants for Source Categories (Maximum Achievable Control Technology (MACT)), 40 CFR Part 63

Subpart YYYY — National Emissions Standards for Hazardous Air Pollutants for Stationary Combustion Turbines

Subpart DDDDD — National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters

CT-3 and the boiler are not subject to these standards because the facility is not a major source of HAP emissions.

Subpart UUUUU — National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units

The boiler is not subject to this standard because it is not a fossil fuel-fired combustion unit of more than 25 megawatts electric (MWe) that serves a generator that produces electricity for sale in accordance to 40 CFR §63.10042.

5.5. Compliance Assurance Monitoring (CAM), 40 CFR Part 64

The purpose of Compliance Assurance Monitoring (CAM) is to provide a reasonable assurance that compliance is being achieved with large emissions units that rely on air pollution control device equipment to meet an emissions limit or standard. Although CT-3 meets the following criteria defined in 40 CFR §64.2: (1) be located at a major source; (2) be subject to an emissions limit or standard; (3) use a control device to achieve compliance; and (4) have potential pre-control emissions that are 100% of the major source level, this facility is not subject to CAM because it qualifies for the exemptions defined in §64.2.(b) – Although CT-3 relies on a water injection system to achieve compliance with federal NO_X standards (PSD/BACT and Subpart GG), a continuous emission monitoring system (CEMS) is used to determine compliance with the NO_X emissions limits. For the boiler, a Multi-Cyclone Dust Collector is used to control particulate; however, there is no particulate emissions limit that applies to this equipment. There are also no emission limits that apply to the black start diesel engine generator. As such, CAM does not apply to this facility.

5.6. Best Available Control Technology (BACT)

A BACT analysis is required for new sources or modifications to sources that have the potential to emit or increase emissions above significant levels considering any limitations as defined in HAR, Section 11-60.1-1. This facility is not subject to a BACT analysis because it is an existing major stationary source as defined and listed in HAR Title 11, Chapter 60.1, Subchapter 7 and 40 CFR Part 52, §52.21, for any single air pollutant and the proposed modification will not cause significant increases in emissions.

5.7. Synthetic Minor Source

This facility is a major stationary source, not a synthetic minor source as defined in HAR 11-60.1-1, which is potentially major, but is made non-major through federally enforceable permit conditions.

6. INSIGNIFICANT ACTIVITIES/EXEMPTIONS

Insignificant activities identified by the applicant that meet the exemption criteria specified in HAR §11-60.1-82(f) and (g) are listed as follows:

Basis for Exemption	Description
§11-60.1-82(f)(1)	1. A 10,521 gallon fixed roof day tank for CT-3; 2. A 10,920 gallon fixed roof day tank for the boiler; 3. A 3,990 gallon fixed roof igniter tank for storing #2 fuel oil.
§11-60.1-82(f)(2)	There may occasionally be fuel burning equipment with a heat input capacity less than 1 MMBtu/hr used at the station.
§11-60.1-82(f)(5)	There may occasionally be standby generators and other emergency equipment.
§11-60.1-82(f)(6)	Spray paint booths
§11-60.1-82(f)(7)	1. A 209,286 gallon fuel oil #6 storage tank; 2. A 461,160 gallon fuel oil #6 storage tank; 3. Two 169,344 gallon #2 diesel fuel storage tanks; 4. Fugitive equipment leaks from valves, flanges, pump seals and any VOC water separators; 5. Solvents used for maintenance purposes; 6. Acid or vertan may be sued for periodic boiler cleaning.
§11-60.1-82(g)(1)	Welding booths
§11-60.1-82(g)(2)	Hand held equipment for maintenance and testing purposes, with reasonable precautions taken to prevent particulate matter from becoming airborne.
§11-60.1-82(g)(3)	Laboratory equipment for chemical and physical analysis
§11-60.1-82(g)(6)	Diesel powered fire pump
§11-60.1-82(g)(8)	Gasoline fired portable industrial equipment less than 25 hp.
§11-60.1-82(g)(9)	Plant maintenance and upkeep activities, such as painting, sandblasting, woodworking, painting, etc.
§11-60.1-82(g)(12)	Stacks and vents to prevent escape of seer gases through plumbing traps.
§11-60.1-82(g)(13)	Consumer use of office equipment and products

7. ALTERNATE OPERATING SCENARIOS

1. The permittee may replace CT-3 or the boiler with a temporary replacement unit of similar size with equal or lesser emissions if any repair reasonably warrants the removal of CT-3 or the boiler from its site (i.e., equipment failure, overhaul, or any major equipment problems requiring maintenance for efficient operation).
2. During emergency load conditions, CT-3 may operate over 100% and up to 110% peak load for no more than 30 minutes while in compliance of emission limits in this permit.
3. The permittee may fire CT-3, PBSG1 and boiler on an alternate fuel provided that all emission limits and regulatory requirements are met.

8. PROJECT EMISSIONS

Emissions of the facility from the boiler, CT-3 and PBSG1 were calculated. The results are summarized in this section. Emissions from insignificant activities qualify pursuant to HAR §11-60.1-62 (g) and (f) are not included.

Emission rates for criteria pollutants, i.e., SO_2, NO_X, CO, VOC and PM/PM_{10} are based on an evaluation of AP-42 calculations, stack test data and permit limits. To be conservative, the applicant assumed that PM-10 and PM-2.5 emissions were equal to all PM emissions. Because of the uncertainties associated with AP-42 emission factors, compliance factors (based on stack test data) greater than the AP-42 emission factors were used to determine certain emission rates. Some of the HAP emission rates were determined by using EPRI PISCES Air Toxic Database, while some were determined using 1994 test data for HELCO's Waiau Station.

8.1. Emissions from the boiler

Emissions for criteria pollutants from the boiler were estimated with compliance factors other than EF in AP-42, 1.3 (05/10) for No. 6 fuel and the boiler heat input of 249 MMBtu/hr. Emission rate for SO_2 calculated using mass balance based on 2.0% sulfur content, No. 6 fuel oil heat content of 18,161 Btu/lb, and all sulfur converted to SO_2. Emissions from the boiler is shown in Enclosure 1 and summarized below.

Pollutant	AP-42 EF (lb/MMBtu)	Apllied EF (lb/MMBtu)	Emission Rate (lb/hr)	Potential Emissions (TPY)
CO	0.033	0.066	16.43	**7.02**
NO_X	0.313	0.767	190.98	**836.5**
SO_2	2.093	2.200	547.80	**2,399.4**
VOC	0.005	0.010	2.49	**10.9**
PM	0.144	0.287	71.46	**313.0**
PM_{10}	0.144	0.287	71.46	**313.0**
$PM_{2.5}$	0.144	0.287	71.46	**313.0**
HAPs	0.001	0.0017	0.44	**1.9**
CO_{2e}				**181,181.0**

8.2. Emissions from CT-3

1 Emission limits for criteria pollutants from CT-3 were established in old permit HI 90-04, and has been kept in current CSP 0235-01-C issued on November 15, 2002. In the renewal of current permit, the applicant proposed to operate CT-3 below 25% (6.165 MW) of peak load (24.66 MW) for no more than sixty-six (66) hours for any rolling twelve-month (12 months). This change of operation will not increase air pollutant emissions above the permitted emission limits in the current permit. Emission limit

(3-hour average) for CT-3 and the emission factors derived from the limit for CO, NO_x, SO_2, VOC and PM/PM_{10} are shown in the table below. The detailed calculation can be found in section 1 of Enclosure 2.

Pollutant	Load	Apllied EF (lb/MMBtu)	Emission Rate (lb/hr)	Potential Emissions (TPY)
CO	100%	0.097	26.8	**117.4**
	75%-<100%	0.205	56.4	**247.0**
	50%-<75%	0.658	181.0	**792.8**
	<50%	1.729	475.6	**2,083.1**
NO_X	≤100%	0.154	42.3	**185.3**
SO_2	≤100%	0.4	110.0	**481.8**
VOC	100%	0.003	0.8	**3.5**
	75%-<100%	0.009	2.6	**11.4**
	50%-<75%	0.102	28.1	**123.1**
	<50%	1.082	297.6	**1,303.5**
PM	≤100%	0.072	19.7	**86.3**
PM_{10}	≤100%	0.072	19.7	**86.3**
$PM_{2.5}$	≤100%	0.072	19.7	**86.3**
HAPs	≤100%	1.25E-3	3.45E-1	**1.5**
CO_{2e}	≤100%			**197,072.3**

2 The proposed change of operation below 25% of peak load for maximum sixty-six (66) hours for any rolling annual year will not increase the emissions equal to or above the significant level defined in §11-60.1-81. The project emissions for this proposed operation are listed in the table below. The detailed calculation and discussion is shown in section 2 of Enclosure 2.

Pollutant		Emission Rate (lb/hr)	Potential Emissions (TPY)	Significant Threshold (TPY)
CO		475.6	**15.7**	25
NO_X		42.3	**1.4**	10
SO_2		110.0	**3.6**	10
PM		19.7	**0.7**	6.25
PM_{10}		19.7	**0.7**	3.75
$PM_{2.5}$	$PM_{2.5}$	19.7	**0.7**	2.5
	SO_2	110.0	**3.6**	10
	NO_X	42.3	**1.4**	10
O_3	NO_X	42.3	**1.4**	10
	VOC	297.6	**9.8**	10
Lead		3.85E-3	**1.27E-4**	0.15
Fluorides		2.77E-3	**9.14E-5**	2
Sulfuric Acid Mist		14.4	**0.5**	2
CO_{2e}			**1,485**	10,000

8.3. Emissions from PBSG1

Emissions from PBSG1 were estimated with emission factors from AP-42, 3.4 (10/96). Potential annual emissions in TPY are based on annual operation limit of three-hundred (300) hours. The project emissions are shown in Enclosure 3 and summarized below.

Pollutant	AP-42 EF (lb/MMBtu)	Emission Rate (lb/hr)	Potential Emissions (TPY)
CO	0.8500	5.39	**0.81**
NO_X	3.2000	20.29	**3.04**
SO_2	0.4040	2.56	**0.38**
VOC	0.0819	0.52	**0.08**
PM	0.0697	0.44	**0.07**
PM_{10}	0.0697	0.44	**0.07**
$PM_{2.5}$	0.0697	0.44	**0.07**
HAPs	0.0016	9.98E-3	**1.50E-3**
CO_{2e}			**143.3**

8.4. Total Emissions

The total potential emissions from this facility are summarized below.

1. Hazardous Air Pollutant Emissions

HAP	Emissions (TPY)			
	Boiler	CT-3	PBSG1	Total
Acetaldehyde	2.38 E-03		2.40E-05	**2.40E-03**
Acrolein			7.49E-06	**7.49E-06**
1,3 Butadiene		1.93E-02		**1.93E-02**
Benzene	3.34E-03	6.62E-02	7.38E-04	**7.03E-02**
Ethylbenzene	4.62E-04			**4.62E-04**
Formaldehyde	2.40E-01	3.37E-01	7.50E-05	**5.77E-01**
Phosphorus	6.88E-02			**6.88E-02**
1,1,1-Trichloroethane	1.72E-03			**1.72E-03**
Toluene	4.51E-02		2.67E-04	**4.53E-02**
Xylene	7.93E-04		1.84E-04	**9.76E-04**
POM	9.45E-03	4.82E-02	2.02E-04	**5.78E-02**
Antimony Compounds	3.82E-02			**3.82E-02**
Arsenic Compounds	9.60E-03	1.32E-02		**2.28E-02**
Beryllium Compounds	2.02E-04	3.37E-04		**5.76E-04**
Cadmium Compounds	2.89E-03	5.78E-03		**8.68E-03**
Chromium Compounds	7.95E-03	1.32E-02		**2.12E-02**
Cobalt Compounds	4.38E-02			**4.38E-02**
Lead Compounds	1.10E-02	1.69E-02		**2.78E-02**
Manganese Compounds	2.55E-02	9.52E-01		**9.77E-01**
Mercury Compounds	5.43E-03	1.45E-03		**6.88E-03**
Nickel Compounds	1.42E+00	5.54E-03		**1.42E+00**
Selenium Compounds	4.97E-03	3.01E-02		**3.51E-02**
Total	**1.94**	**1.51**	**1.50**	**3.45**

2. Criteria Pollutant Emissions

Pollutant	Emissions (TPY)			
	Boiler	CT-3	PBSG1	Total
CO	72.0	2,083.1	0.8	**2,156**
NO_X	836.5	185.3	3.0	**1,025**
SO_2	2,399.4	481.8	0.4	**2,882**
VOC	10.9	1,303.5	0.1	**1,314**
PM	313.0	86.3	0.1	**399**
PM_{10}	313.0	86.3	0.1	**399**
$PM_{2.5}$	313.0	86.3	0.1	**399**

3. Green House Gas

GHG	GWP	GHG Mass-Based Emissions (TPY)[1]	CO_2e Based Emissions (TPY)
Carbon Dioxide (CO_2)	1	377,112.00	377,112
Methane (CH_4)	25	15.19	380
Nitrous Oxide (N_2O)	298	3.04	905
Total Emissions:			**378,397**

9. AIR QUALITY ASSESSMENT

No ambient air quality analysis (AAQA) is required since the proposed change is not a significant modification and there is no increase in the calculated emissions. The AAQA performed for existing permit issued on November 15, 2002 is still valid.

10. SIGNIFICANT PERMIT CONDITIONS

10.1. CT-3

1. 40 CFR Part 60, Subpart GG requirements.
2. Fuel oil No. 2 with a maximum sulfur content not to exceed 0.4% by weight.
3. Alternate operating scenario for CT-3 to operate below 25% of peak load in isochronous mode with water injection for system restoration.
4. CT-3 shall not operate below 25% of peak load for more than 66 hours in any rolling twelve-month (12-month) period except during startup, shutdown, maintenance and testing, and under above alternate operating scenario.
5. SO_2, NO_x, CO, VOC, and PM-10 emission limits for CT-3 operated at below 50%, between 50% - 75% and 75% - 100% of peak load.
6. Operation and maintenance of water injection system to meet the NOx emission limits.
7. Water-to-fuel mass ratios on a one (1) hour basis for the water injection system.
8. Annual source performance test for CT-3.
9. Operate and maintain a CEMS for CT-3.

Reason: These permit conditions are set to comply with NAQQS, SAQQS, and emissions thresholds. Most of these conditions remain the same as in the permit issued on Nov. 15, 2002. The alternate operating scenario and the operation below 25% of peak load are provided to address the interruption due to renewable energy sources in the grid and allow operation flexibility. The maximum sixty-six (66) hours in any rolling twelve-month (12 month) period for operation below 25% of peak load was proposed by the applicant to comply the conditions of

minor modification defined in HAR §11-60.1-81, and not to trigger PSD review in accordance the significant level defined in HAR §11-60.1-131.

10.2. PBSG1

1. Fuel oil No. 2 with a maximum sulfur content not to exceed 0.4% by weight.
2. Three-hundred (300) hours of maximum operating time in any rolling twelve-month (12-month) period.
3. Incorporate provisions of 40 CFR Part 63, Subpart ZZZZ for PBSG1 as a black start stationary RICE. PBSG1 must be operated and maintained in accordance with 40 CFR §63.6603, §63.6625, §63.6640, and §63.6675.

Reason: Conditions 1 and 2 remain as same as in the existing permit issued on November 15, 2002 to comply with NAQQS and SAQQS. The new condition is added to comply the requirements of 40 CFR Part 63, Subpart ZZZZ for black start stationary RICE located at area sources of HAP emissions.

10.3. Boiler

1. No. 2 diesel, No. 6 fuel oil with 2% max sulfur content by weight, or spec used oil blended with Nos. 2 diesel, or 6 fuel oil, with a maximum sulfur content not to exceed 2% by weight.
2. Burn no more than 200,000 gallons of spec used oil per rolling twelve-month (12-month) period.
3. Specified limits for As, Cd, Cr, Pb, S, total halogens, flash point and PCB in spec used oil.
4. Alternate operating scenarios for temporary replacement.
5. Incorporate provisions of 40 CFR Part 63, Subpart JJJJJJ, which require biennial tune-ups and one-time energy assessment for the boiler.
6. Sulfur dioxide (SO_2) emissions cap for regional haze and related monitoring, recordkeeping, notification and reporting requirements: The Kanoelehua Hill Generating Station, Hill 5 and Hill 6 Units, and Puna Generating Station, Boiler 1 Unit, shall not emit or cause SO_2 to be emitted in excess of a total of 3,550 tons per year, calculated as the sum of total SO_2 emissions for all three (3) units over a rolling twelve-month (12-month) period.

Reason: These permit conditions are set to comply with NAQQS and SAQQS. Most of these conditions remain the same as in the permit issued on November 15, 2002. The alternate operating scenarios for temporary replacement of the boiler are added to increase operational flexibility and decreases the likelihood of an interruption in electrical service. The new conditions of biennial tune-ups and energy assessment are added to comply the requirements of 40 CFR Part 63, Subpart JJJJJJ. Regional haze conditions are added to comply the requirements of 40 CFR Part 51, Subpart P and Part 52, Subpart M.

10.4. Other Changes and Reasoning

1. Delete the condition of monitoring of nitrogen content for CT-3, since the applicant does not claim the NSPS subpart GG fuel bond nitrogen emission allowance.
2. Delete the condition of monthly VE monitoring requirement for PBSG since PBSG1 operated less than two (2) hours for the whole year in each year of 2014-2016 per the support information submitted by the applicant.
3. Reject the proposed condition of using visible emissions observations 40 CFR Part 60, Appendix A, Method 9 to demonstrate the compliance with the opacity limits during

periods of opacity exceedance measured by the transmissometer continuous monitoring system (CMS). This will avoid to give the right to the permittee to invalidate the measuring of CMS, since only the Enforcement or Monitoring Section at CAB has the authority to decide if the operation of CMS is valid or not.

11. CONCLUSION AND RECOMMENDATION

The calculations for emissions have demonstrated conservatism and no increase in emissions from the proposed change in the ways of using AP-42 emission factors, the HELCO compliance factors and limited emission rates at 25% of peak load (24.66 MW) for operation below 25% to overestimate the emissions while maintain the emissions. This facility will continue to be in compliance with State and National AAQS.

Recommend issuance of the renewal for the CSP subject to the incorporation of the significant permit conditions, thirty (30) day public comment period and forty-five (45) day EPA review.

Enclosure 1: Boiler Emissions

AP-42 Section 1.3 (05/10) - Fuel Oil Combustion

AP-42 EF (lb/MMBtu) =AP-42 EF (lb/10^3 gal)/ Heat Value (150 MMBtu/10^3 gal)

Emission (lb/hr or kg/hr) = Heat Input (249 MMBtu/hr) x Applied EF (lb/MMBtu or kg/hr)

Emission (TPY) = Emission (lb/hr) x Hour Limit (8760 hr/yr)/2000 (lb/ton)

Emission (TPY) = Emission (kg/hr) x Hour Limit / 1000 (kg/ton)

	Value	Unit	Notes
Hour Limit	8760	hr/yr	
Fuel Consumption	1740	gal/hr	Manufacturer's data
No. 6 Oil Sulfur Content	2	%	
No. 6 Oil Heating Value	150	MMBtu/10^3 gal	
Heat Input Rate	249	MMBtu/hr	Applicant's info
Used oil Consumption	23,500	gal/yr	Applicant's info (90 gal/hr)

Pollutant	AP-42 EF (lb/10^3 gal)	AP-42 EF (lb/MMBtu)	Apllied EF[1] (lb/MMBtu)	Emissions (lb/hr)	Emissions (TPY)
CO	5.00	0.033	0.066	16.43	**72.0**
NO_X	47.00	0.313	0.767	190.98	**836.5**
SO_2	314.00	2.093	2.200	547.80	**2,399.4**
VOC	0.76	0.005	0.010	2.49	**10.9**
PM[2]	21.60	0.144	0.287	71.46	**313.0**
PM-10[2]	21.60	0.144	0.287	71.46	**313.0**
PM-2.5[2]	21.60	0.144	0.287	71.46	**313.0**

Hazardous Air Pollutant (HAP)	AP-42 EF (lb/10^3 gal)	AP-42 EF (lb/MMBtu)	Apllied EF[3] (lb/MMBtu)	Emissions (lb/hr)	Emissions (TPY)
Acetaldehyde[4]			2.18E-06	5.43E-04	**2.38E-03**
Acrolein					
1,3-Butadiene					
Benzene[5]	2.14E-04	1.43E-06	3.06E-06	7.62E-04	**3.34E-03**
Ethylbenzene	6.36E-05	4.24E-07	4.24E-07	1.06E-04	**4.62E-04**
Formaldehyde	3.30E-02	2.20E-04	2.20E-04	5.48E-02	**2.40E-01**
Phosphorus	9.46E-03	6.31E-05	6.31E-05	1.57E-02	**6.88E-02**
1,1,1-Trichloroethane	2.36E-04	1.57E-06	1.57E-06	3.92E-04	**1.72E-03**
Toluene	6.20E-03	4.13E-05	4.13E-05	1.03E-02	**4.51E-02**
Xylene	1.09E-04	7.27E-07	7.27E-07	1.81E-04	**7.93E-04**
POM	1.30E-03	8.67E-06	8.67E-06	2.16E-03	**9.45E-03**
Antimony Compounds	5.25E-03	3.50E-05	3.50E-05	8.72E-03	**3.82E-02**
Arsenic Compounds	1.32E-03	8.80E-06	8.80E-06	2.19E-03	**9.60E-03**
Beryllium Compounds	2.78E-05	1.85E-07	1.85E-07	4.61E-05	**2.02E-04**
Cadmium Compounds	3.98E-04	2.65E-06	2.65E-06	6.61E-04	**2.89E-03**
Chromium Compounds	1.09E-03	7.29E-06	7.29E-06	1.81E-03	**7.95E-03**
Cobalt Compounds	6.02E-03	4.01E-05	4.01E-05	9.99E-03	**4.38E-02**
Lead Compounds	1.51E-03	1.01E-05	1.01E-05	2.51E-03	**1.10E-02**
Manganese Compounds[5]	3.00E-03	2.00E-05	2.34E-05	5.83E-03	**2.55E-02**
Mercury Compounds[5]	1.13E-04	7.53E-07	4.98E-06	1.24E-03	**5.43E-03**
Nickel Compounds[5]	8.45E-02	5.63E-04	1.30E-03	3.24E-01	**1.42E+00**
Selenium Compounds	6.83E-04	4.55E-06	4.55E-06	1.13E-03	**4.97E-03**
Total HAPs	1.54E-01	1.03E-03	1.78E-03	4.43E-01	**1.94E+00**

Green Hourse Gas (GHG)	GWP	Apllied EF[6] (kg/MMBtu)	Mass-Based Emissions (kg/hr)	Mass-Based Emissions (TPY)	CO2e Based Emissions (TPY)
CO_2	1	75.10	18,699.90	180,570.80	180,570.8
CH_4	25	3.00E-03	0.75	7.21	180.3
N_2O	298	6.00E-04	0.15	1.44	429.9
Total				**180,579.46**	**181,181.04**

notes:

1. EF are applied with a compliance factor greater than 1 provided by the applicant.
2. Assume PM=PM-10=PM-2.5 to be conservative.
3. EF selected from the biggest among AP-42, EPRI PISCES Air Toxic Database, and test data.
4. EF based on 1994 Waiau 7 Test data
5. EF from EPRI PISCES Air Toxic Database
6. EF from the Mandatory Greenhouse Gas Reporting rule (40 CFR §98, Tables C-1 and C-2).

Enclosure 2: CT-3 Emissions

AP-42 Section 3.1 (04/00) - Stationary Gas Turbines
Emission (lb/hr or kg/hr) = Heat Input (249 MMBtu/hr) x Applied EF (lb/MMBtu or kg/hr)
Emission (TPY) = Emission (lb/hr) x Hour Limit / 2000 (lb/ton)
Emission (TPY) = Emission (kg/hr) x Hour Limit / 1000 (kg/ton)

	Value	Unit	Notes
Hour Limit	8760	hr/yr	
Fuel Consumption		gal/hr	Manufacturer's data
No. 2 Oil Sulfur Content	0.4	%	
No. 2 Oil Heating Value	140	MMBtu/10^3 gal	
Heat Input Rate	275	MMBtu/hr	Applicant's info
Hour Limit (<25% peak load Operation)	66	hr/yr	Proposed by applicant

1. CT-3 Emission for operation at various load

Pollutant	Load	AP-42 EF (lb/MMBtu)	Apllied EF[1] (lb/MMBtu)	Emissions[2] (lb/hr)	Emissions[3] (TPY)
NO_X	≤100%	0.24	0.154	42.3	**185.3**
SO_2	≤100%	0.404	0.400	110.0	**481.8**
PM[4]	≤100%	1.20E-02	0.072	19.7	**86.3**
PM-10[4]	≤100%	4.30E-03	0.072	19.7	**86.3**
PM-2.5[4]	≤100%		0.072	19.7	**86.3**
CO	100%	0.076	0.097	26.8	**117.4**
	75%-100%		0.205	56.4	**247.0**
	50%-75%		0.658	181.0	**792.8**
	<50%		1.729	475.6	**2083.1**
VOC	100%	4.10E-04	0.003	0.8	**3.5**
	75%-100%		0.009	2.6	**11.4**
	50%-75%		0.102	28.1	**123.1**
	<50%		1.082	297.6	**1303.5**

Hazardous Air Pollutant (HAP)	AP-42 EF (lb/MMBtu)	Apllied EF (lb/MMBtu)	Emissions (lb/hr)	Emissions[3] (TPY)
Acetaldehyde				
Acrolein				
1,3-Butadiene	1.60E-05	1.60E-05	4.40E-03	**1.93E-02**
Benzene	5.50E-05	5.50E-05	1.51E-02	**6.62E-02**
Ethylbenzene				
Formaldehyde	2.80E-04	2.80E-04	7.70E-02	**3.37E-01**
Phosphorus				
1,1,1-Trichloroethane				
Toluene				
Xylene				
POM	4.00E-05	4.00E-05	1.10E-02	**4.82E-02**
Antimony Compounds				
Arsenic Compounds	1.10E-05	1.10E-05	3.03E-03	**1.32E-02**
Beryllium Compounds	3.10E-07	3.10E-07	8.53E-05	**3.73E-04**
Cadmium Compounds	4.80E-06	4.80E-06	1.32E-03	**5.78E-03**
Chromium Compounds	1.10E-05	1.10E-05	3.03E-03	**1.32E-02**
Cobalt Compounds				
Lead Compounds	1.40E-05	1.40E-05	3.85E-03	**1.69E-02**
Manganese Compounds	7.90E-04	7.90E-04	2.17E-01	**9.52E-01**
Mercury Compounds	1.20E-06	1.20E-06	3.30E-04	**1.45E-03**
Nickel Compounds	4.60E-06	4.60E-06	1.27E-03	**5.54E-03**
Selenium Compounds	2.50E-05	2.50E-05	6.88E-03	**3.01E-02**
Total HAPs	1.25E-03	1.25E-03	3.45E-01	**1.51E+00**

Green Hourse Gas (GHG)	GWP	Apllied EF[5] (kg/MMBtu)	Mass-Based Emissions (kg/hr)	Mass-Based Emissions[3] (TPY)	CO2e Based Emissions[3] (TPY)
CO_2	1	73.96	20,339.00	196,398.35	196,398.4
CH_4	25	3.00E-03	0.83	7.97	199.2
N_2O	298	6.00E-04	0.17	1.59	474.8
Total				**196,407.91**	**197,072.3**

notes:
1. EF are calculated based on emission limit.
2. Emission limit set in PSD permit HI 90-04.
3. Emissions based on 8,760 hr/yr.
4. Assume PM=PM-10=PM-2.5 to be conservative.
5. EF from the Mandatory Greenhouse Gas Reporting rule (40 CFR §98, Tables C-1 and C-2).

2. Projected emissions at operation below 25% of peak load for 66 hrs

Pollutant		AP-42 EF (lb/MMBtu)	Apllied EF (lb/MMBtu)	Emissions (lb/hr)	Emissions[6] (TPY)
NO_X[1]		0.24	0.302	42.3[2]	1.4
CO[1]		0.076	3.397	475.6[2]	15.7
SO_2[1]		0.404	7.871	110[2]	36.4
PM[1,3]		1.20E-02	0.141	19.7[2]	0.7
PM-10[1,3]		1.20E-02	0.141	19.7[2]	0.7
PM-2.5	PM-2.5[3]	1.20E-02	0.141	19.7[2]	0.7
	NO_X[1]	0.24	0.302	42.3[2]	1.4
	SO_2[1]	0.40	7.87	110[2]	36.4
O_3	NO_X[1]	0.24	0.30	42.3[2]	1.4
	VOC[1]	4.10E-04	2.126	297.6[2]	9.8
Lead		1.40E-05	1.40E-05	3.85E-03	1.27E-04
Fluorides[4]			1.01E-05	2.77E-03	9.14E-05
Sulguric Acid Mist (H_2SO_4)[5]			5.24E-02	14.4	0.5
CO2e					1,484.8

Green Hourse Gas (GHG)	GWP	Apllied EF[7] (kg/MMBtu)	Mass-Based Emissions (kg/hr)	Mass-Based Emissions[6] (TPY)	CO2e Based Emissions[6] (TPY)
CO_2	1	73.96	20,339.00	1,479.71	1,479.7
CH_4	25	3.00E-03	0.83	6.00E-02	1.50E+00
N_2O	298	6.00E-04	0.17	1.20E-02	3.58E+00
Total				**1,479.79**	**1,484.8**

notes:

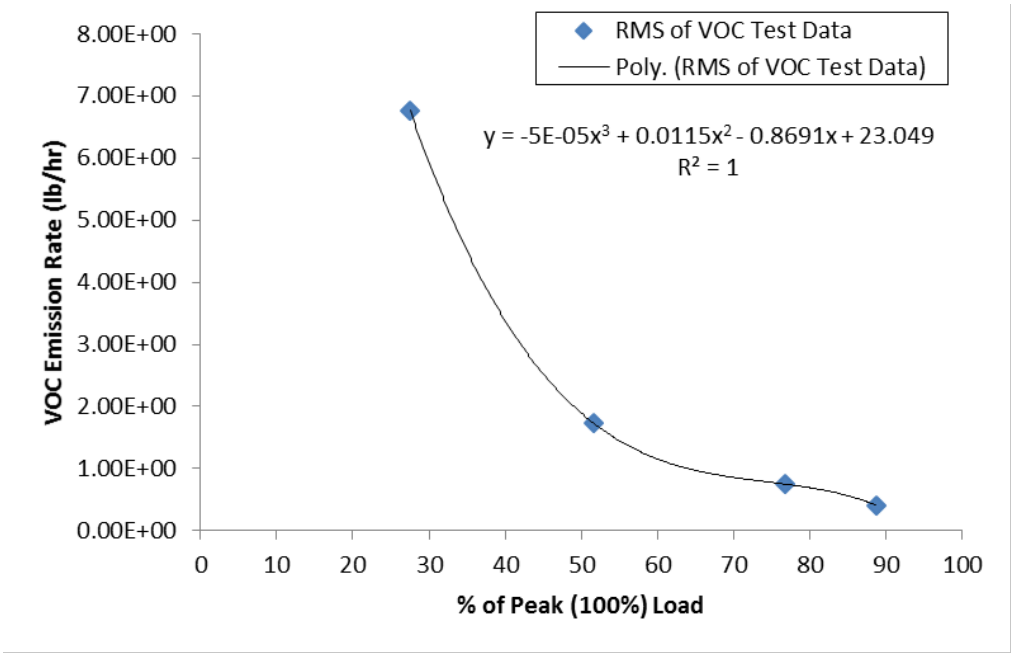
1. EF are calculated based on emission limit.
2. Emission limit set in PSD permit HI 90-04.
3. Assume PM=PM-10=PM-2.5 to be conservative.
4. Emission rate for Fluorides based on fuel test results of 0.2ppm dated 04/11/85.
5. Emission rate for H2SO4 based on MECO M16 source test result dated 08/19/94.
6. Emissions based on 66 hr/yr.
7. EF from the Mandatory Greenhouse Gas Reporting rule (40 CFR §98, Tables C-1 and C-2).

Tables above summarize the project emissions based on a maximum operation of sixty-six (66) hours per rolling twelve-month (12-month) period at loads less than 25% of peak load with water injection and show that the project qualifies as a minor modification because the project emissions are below levels specified in HAR §11-60.1-81. The emissions are estimated by the following methods:

1. Calculated based on emission rate limits set in current CSP 0235-01-C issued on November 15, 2002:
   a. The emission limit of VOC at 25% of peak load is taken as the maximum emission rate.

In the following figure, the root mean square (RMS) of tested VOC emission rate in each year of 2005, 2008, 2009, 20012, and 2015 is plotted against the RMS of percentage of peak load in corresponding year. The plot shows the relationship between the VOC emission rate and the load is as:

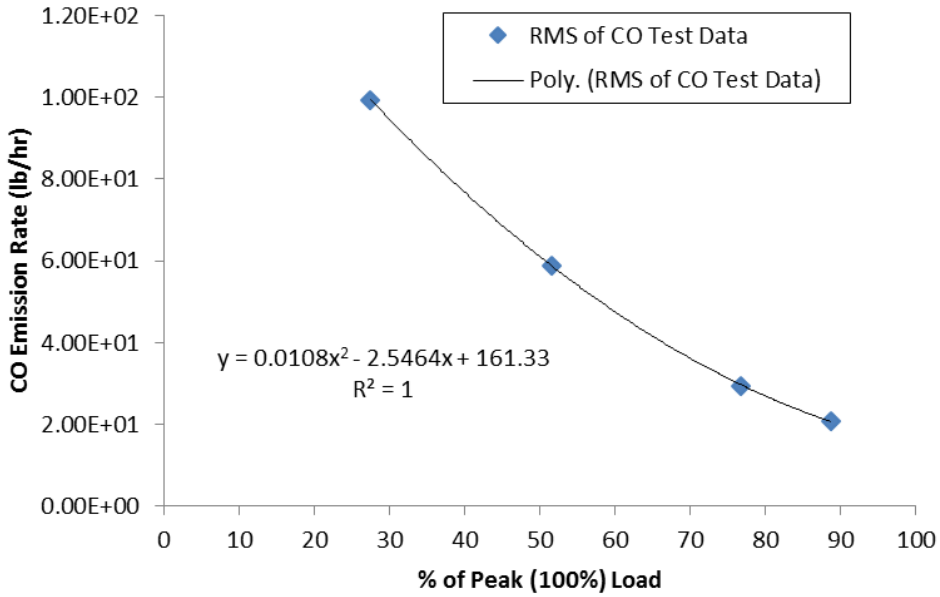
$y = -5E\text{-}05x^3 + 0.0115x^2 - 0.8691x + 23.049$



Taking the first order derivative $dy/dx=-1.5E\text{-}04x^2+ 0.023x-0.8691=0 \Rightarrow x_1=69, x_2=84$

For $x < 69$, $(dy/dx) > 0$. Therefore, as load decreases, VOC emission rate increases. Theoretically, at x=0, y = 23.05 lb/hr would be the maximum emission rate of VOC. Therefore, taking the limited emission rate of 297.6 lb/hr at 25% of peak load is very conservative. The calculated annual VOC emission based on this is in agreement with the reasoning used by the applicant.

b. The emission limit of CO at 25% of peak load is taken as the maximum emission rate.

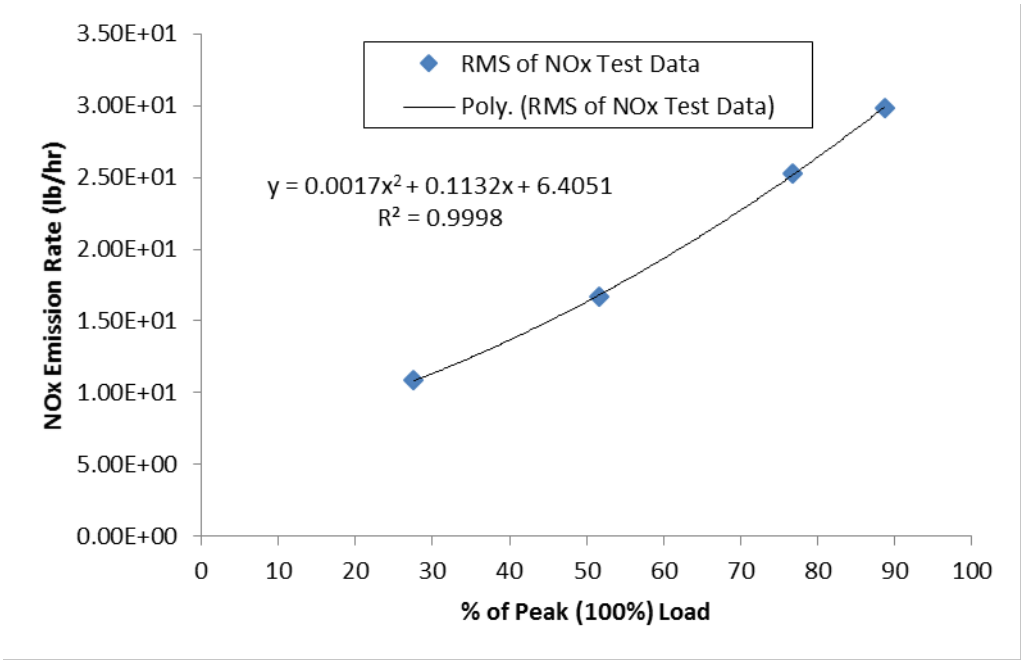


In the figure above, the root mean square (RMS) of tested CO emission rate in each year of 2005, 2008, 2009, 20012 and 20015 is plotted against the RMS of percentage of peak load in corresponding year. The plot shows the relationship between the CO emission rate and the load is as:

$y = 0.0108x^2 – 2.5464x + 161.33 \Rightarrow y = 0.0108(x – 118)^2 + 11 > 0$

For $x < 118$, y increases as x decreases. This means CO emission rate increases as load decreases. Theoretically, 161.33 lb/hr would be the maximum emission rate for CO at load of 0. Therefore, taking the limited emission rate of 457.6 lb/hr at 25% of peak load is very conservative. The calculated annual CO emission based on this is in agreement with the reasoning used by the applicant.

c. The emission limit of NO_x is taken as the maximum emission rate.



In the figure above, the root mean square (RMS) of tested NO_x emission rate in each year of 2005, 2008, 2009, 20012, and 20015 is plotted against the RMS of percentage of peak load in corresponding year. The plot shows the relationship between the NO_x emission rate and the load is as:

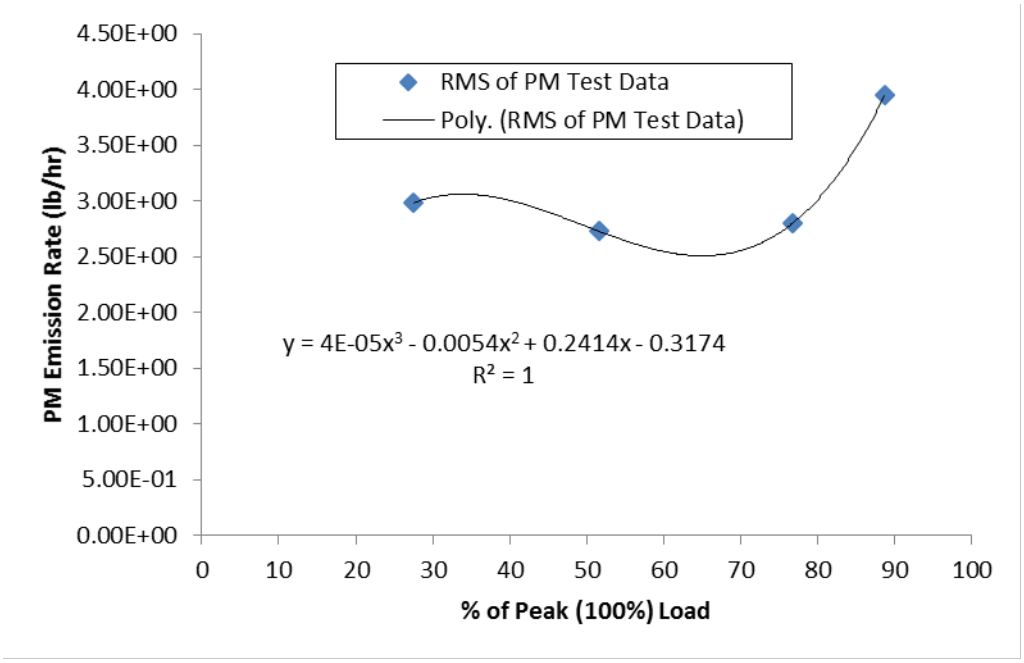
$y = 0.0017x^2 + 0.1132x + 6.4051$

For $x > 0$, y decreases as x decreases. This means that NO_x emission rate decreases as load decreases and the maximum emission rate of 34.7 lb/hr should occur at the peak load. Therefore, taking the emission limit of 42.3 lb/hr is conservative. The calculated annual NO_x emission based on this is in agreement with the reasoning used by the applicant.

d. The emission limit of $PM/PM_{10}/PM_{2.5}$ is taken as the maximum emission rate.

In the following figure, the root mean square (RMS) of tested PM emission rate in each year of 2005, 2008, 2009, 20012, and 20015 is plotted against the RMS of percentage of peak load in corresponding year. The plot shows the relationship between the PM emission rate and the load is as:

$y = 4E\text{-}05x^3 - 0.0054x^2 + 0.2414x - 0.3174$



$dy/dx = 1.2E\text{-}04x^2 - 0.0108x + 0.2414 = 0 \Rightarrow x_1 = 35$ and $x_2 = 65$

For $x < 35$ and $x > 65$, $(dy/dx) > 0$, and hence y decreases as x decreases. For $35 < x < 65$, y decreases as x increases. Theoretically, the maximum PM emission rate of 9.8 lb/hr should occur at the peak load. Therefore, taking the emission limit of 17.6 lb/hr is very conservative. The calculated annual PM emission based on this is in agreement with the reasoning used by the applicant.

e. The emission limit of SO_2 is taken as the maximum emission rate.

The SO_2 emission factor is directly proportional to fuel sulfur content and is a constant as the sulfur content is not changing. As the load (heat input) decreases, the emission rate decreases. Therefore, taking the emission limit of 110 lb/hr set for operation above 25% of peak load will be conservative.

2. Calculated based on source test data:

The fluorides and H_2SO_4 emission factors are dependent on fuel type. Thus, these emission factors remain constant as load varies. Therefore, fluorides, and H_2SO_4 emissions decrease with decreasing load. Worst-case emissions will occur when the CT is operating at peak load. Calculating the emissions based on source test data when CT-3 was fired on same type of fuel and operated above 25% of peak load will be conservative.

3. Calculated based on AP-42 EF:

The lead emission factors is dependent on fuel type. Thus, its emission factor remains constant as load varies. Therefore, lead emissions decrease with decreasing load. Worst-case emissions will occur when the CT is operating at peak load. Calculating the emissions based on AP-42 will be safe.

For comparison, the justifications that the applicant used for estimating the emissions are listed in the following. These methods reach the same results concluded in the tables shown at the beginning of this enclosure.

Based on the emission limits for CT3 as specified in the CSP and source performance test data, load reduction has the following impacts on the CT emission factors:

- The SO_2 emission factor is directly proportional to fuel sulfur content. Thus, the SO_2 emission factor remains constant.
- The lead, fluorides, and H_2SO_4 emission factors are dependent on fuel type. Thus, these emission factors remain constant.
- The NO_X emission factor decreases with decreasing load; refer to Figure 1.
- The CO, VOC, PM, PM_{10}, and $PM_{2.5}$ emission factors increase with decreasing load.

Since SO_2, NO_X, lead, fluorides, and H_2SO_4 emissions decrease with decreasing load, emission rates below 25% of peak load (6.165 MW) are not needed. Worst-case emissions will occur when the CT is operating at peak load. Thus, project SO_2, NO_X, lead, fluorides, and H_2SO_4 emissions are based on the CT operating at peak load.

Based on comparison of the permitted emission rates for CO, VOC, and PM/PM_{10} and source test data, the permitted emission rates for these pollutants at 25% of peak load are conservative; refer to Figures 2 through 6. Thus, project CO, VOC, and PM/PM_{10} are based on the CT operating at 25% of peak load and $PM_{2.5}$ emissions are based on PM/PM_{10} emissions.

Table 1 summarizes the project emissions based on a maximum operation of 66 hours per rolling 12-month period at loads less than 25% of peak load with water injection and shows that the project qualifies as a minor modification because the project emissions are below levels specified in HAR §11-60.1-81.

Table 1 – Project Emissions Calculations

Pollutant		CT3 Operation Below 25% of Peak Load with Water Injection Project Emissions[1] (lb/hr per CT)	(tpy total)	Significant Level[2] (tpy)	Significant Modification Required (Yes/No)
CO		475.6	15.69	25	No
NO_X		42.3	1.40	10	No
SO_2		39.0	1.29	10	No
PM		19.7	0.65	6.25	No
PM_{10} [4]		19.7	0.65	3.75	No
$PM_{2.5}$ [3, 4]	$PM_{2.5}$	19.7	0.65	2.5	No
	SO_2	110	3.63	10	
	NO_X	42.3	1.40	10	
O_3 [5]	NO_X	42.3	1.40	10	No
	VOC	297.60	9.82	10	
Lead		3.85E-03	1.27E-04	0.15	No
Fluorides		2.77E-03	9.14E-05	2	No
Sulfuric Acid Mist (H_2SO_4)		14.4	0.475	2	No
CO_2e			1,485	10,000	No

Notes:

1. Project tpy values based on 66 hrs/yr.
2. Minor modification significant levels from HAR §11-60.1-81.
3. $PM_{2.5}$ emissions and PM_{10} emissions shall include gaseous emissions from a source or activity which condense to form particulate matter at ambient temperatures (40 CFR §52.21(b)(50)(i)(a) and HAR §11-60.1-1).
4. In addition to the 10 tpy significant level for direct $PM_{2.5}$ emissions, the project is significant for $PM_{2.5}$ if SO_2 or NO_X emissions exceed 40 tpy (40 CFR §52.21(b)(23)(i) and HAR §11-60.1-1).
5. The project is significant for O_3 if NO_X or VOC emissions exceed 40 tpy (40 CFR §52.21(b)(23)(i) and HAR §11-60.1-1).

Table 2 – GHG Emissions Calculations

Units	Heat Input (MMBtu/yr)	GHG Pollutant[1]	Emission Factor[2] (kg/MMBtu)	Global Warming Potential[3]	GHG Emissions CO_2e (tpy)
CT3	18,150	CO_2	73.96	1	1,479.7
		N_2O	6.0E-04	298	3.58E+00
		CH_4	3.0E-03	25	1.50E+00
				Total CO_2e =	**1,484.8**

Notes:

1. Greenhouse Gas (GHG) pollutants from the Mandatory Greenhouse Gas Reporting rule (40 CFR §98.32).
2. Emission factors from the Mandatory Greenhouse Gas Reporting rule (40 CFR §98, Tables C-1 and C-2).
3. Global Warming Potentials from the Mandatory Greenhouse Gas Reporting rule (40 CFR §98, Table A-1).
4. Project tpy values based on 66 hrs/yr.

Figure 1 – Relationship Between NO_X Emission Factor and Load

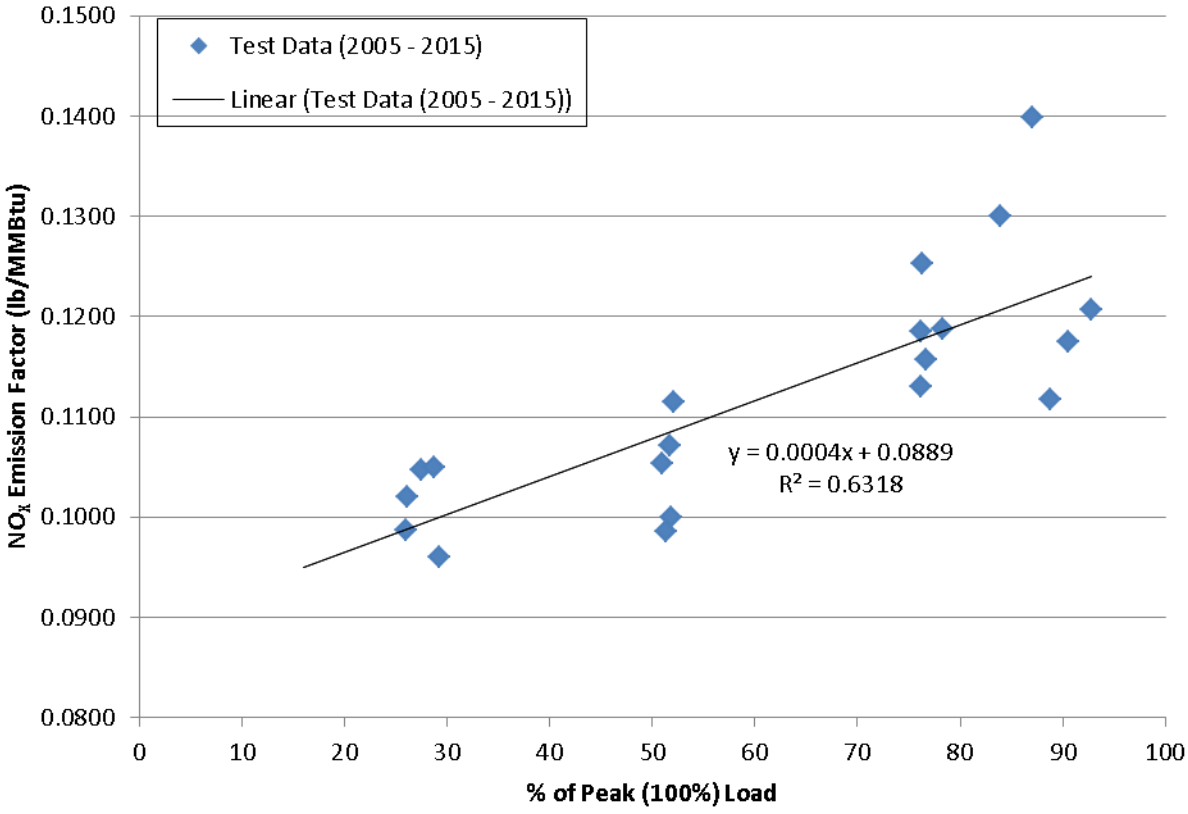


Figure 2 – Relationship Between CO Emission Factor and Load

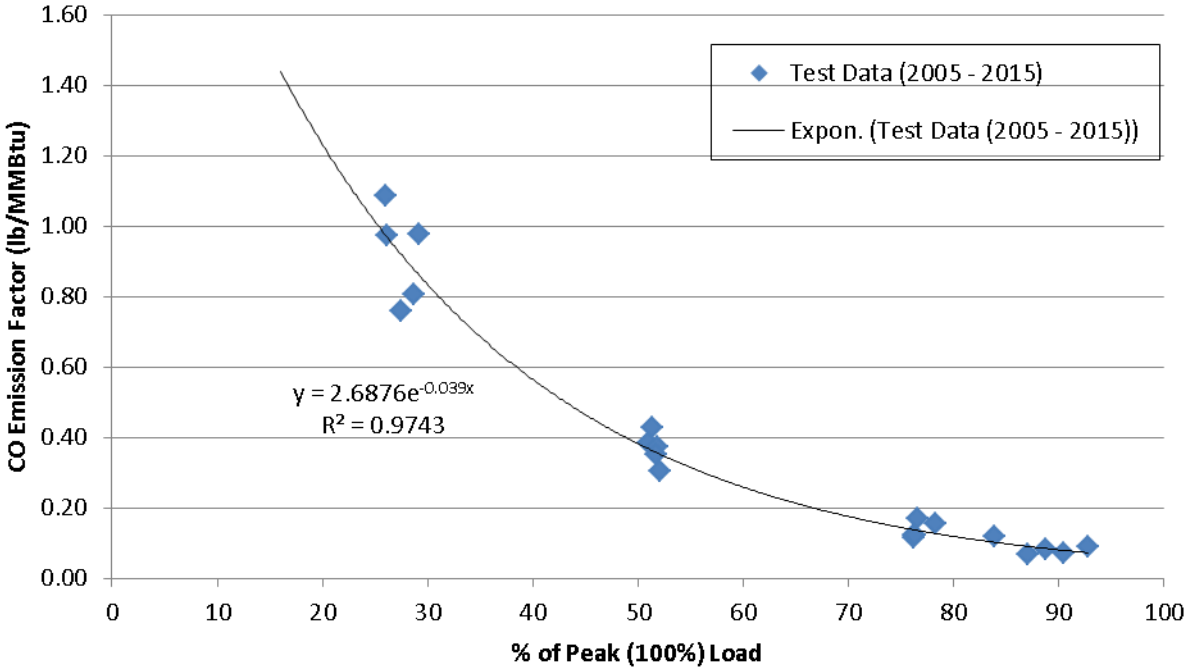


Figure 3 – Comparison of CO Source Test Data and CO Emission Limits

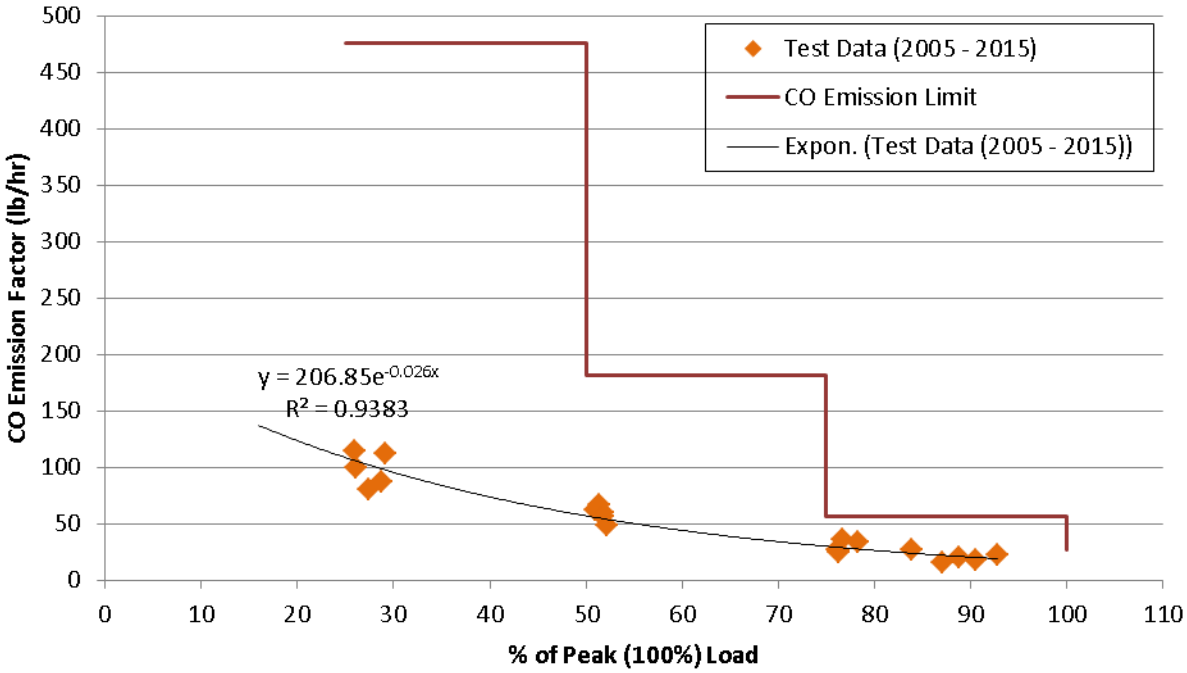


Figure 4 – Relationship Between VOC Emission Factor and Load

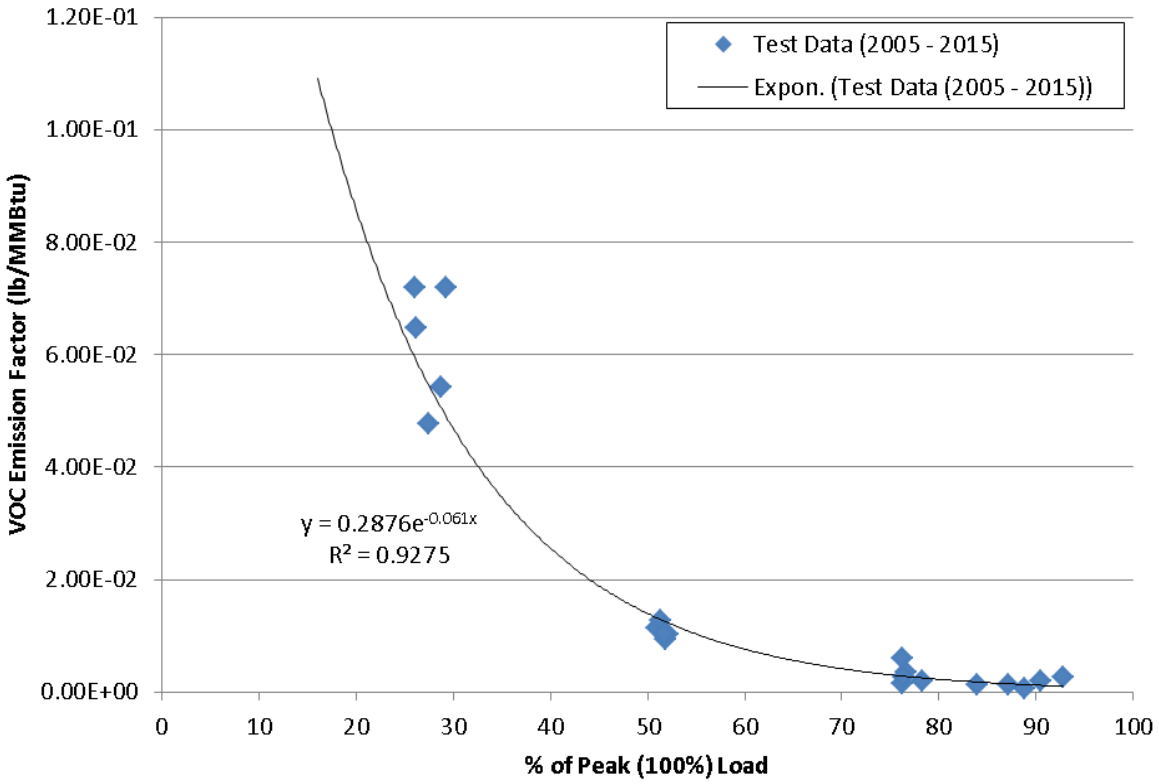


Figure 5 – Comparison of VOC Source Test Data and VOC Emission Limits

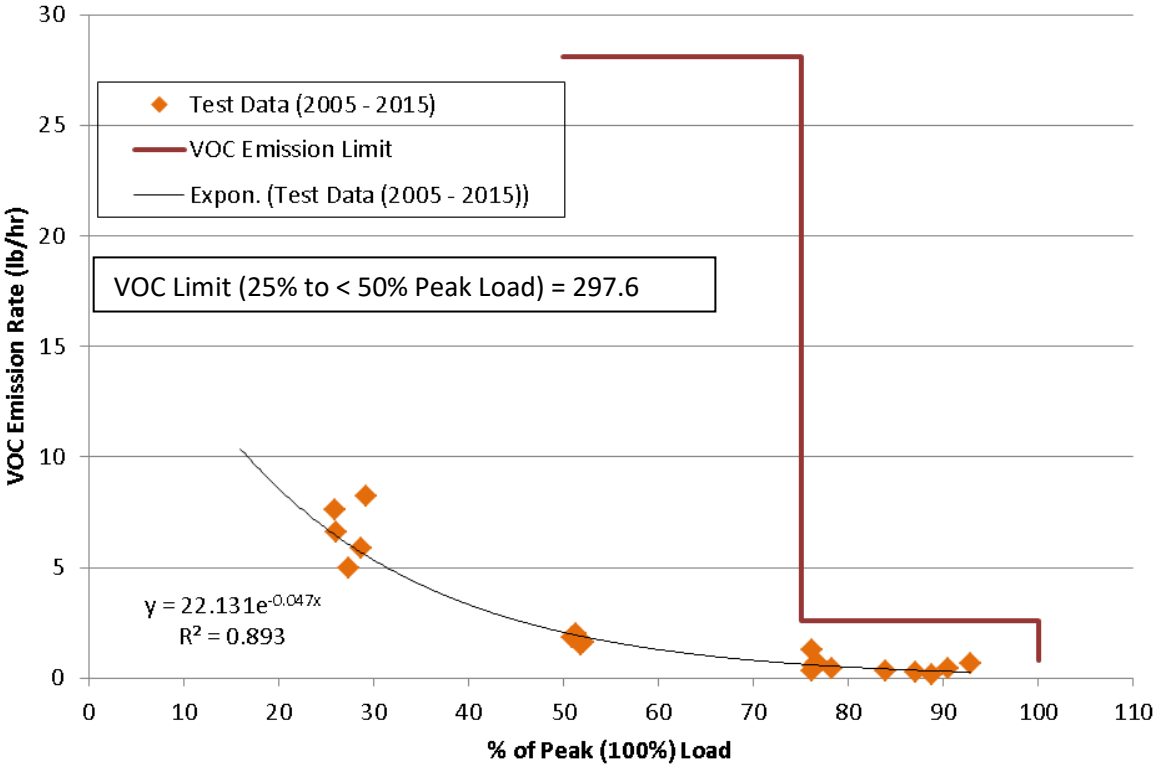


Figure 6 – Relationship Between PM Emission Factor and Load

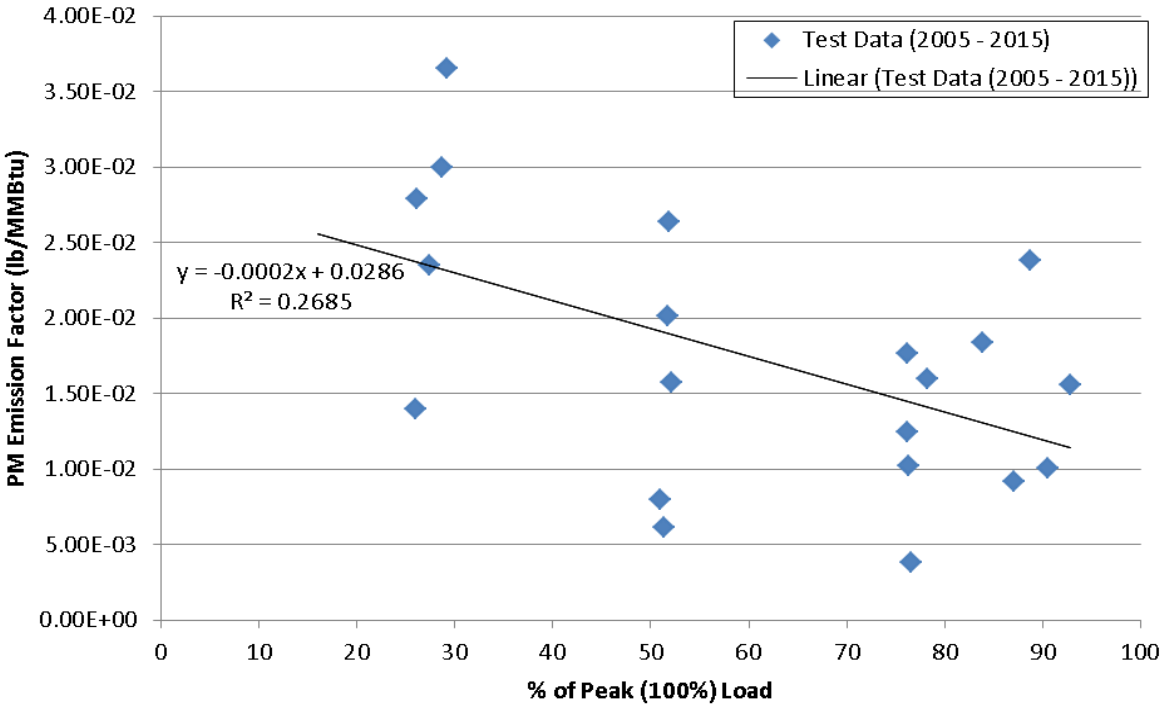
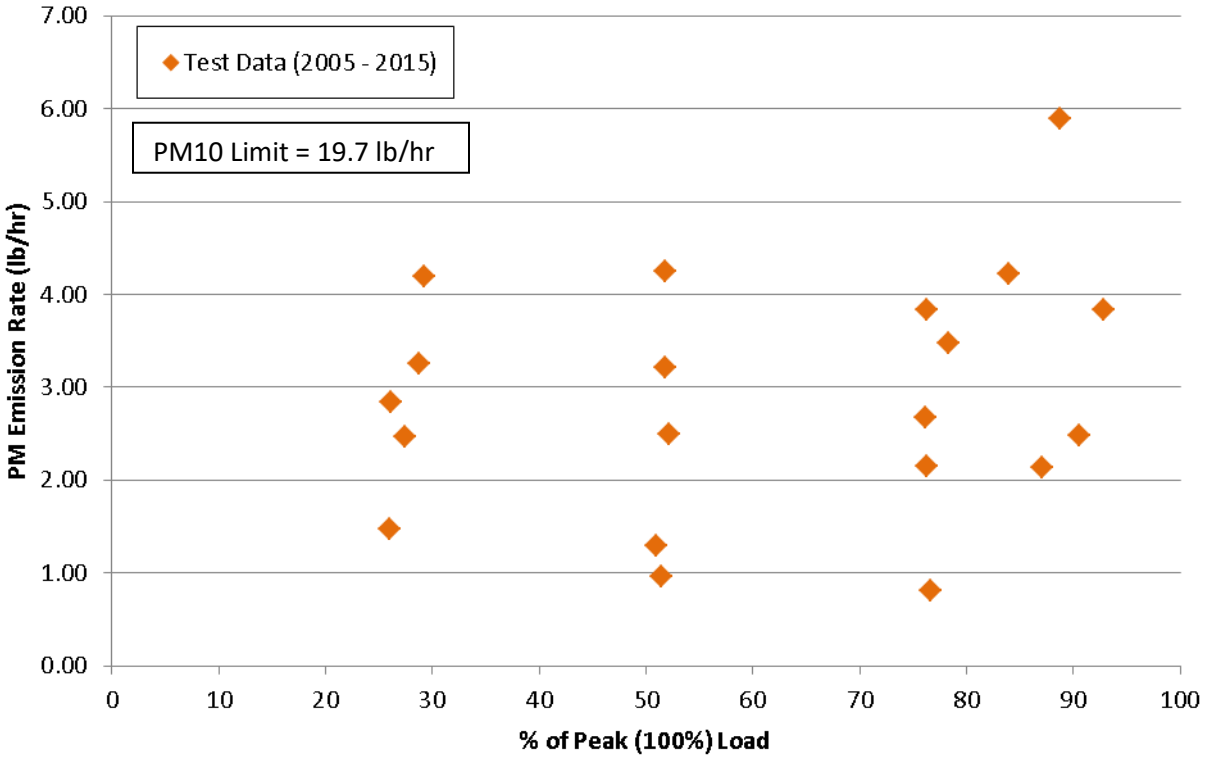


Figure 6 – Relationship Between PM Emission Factor and Load



Enclosure 3: PBSG1 Emissions

AP-42 Section 3.3 (10/96) - Large Stationary Diesel and All Stationary Dual-Fuel Engines
Emission (lb/hr) = Heat Input Value (6.34 MMBtu/hr) x Applied EF (lb/MMBtu)
Emission (TPY) = Emission (lb/hr) x Hour Limit (300 hr/yr) / 2000 (lb/ton)
Emission (TPY) = Emission (kg/hr) x Hour Limit (300 hr/yr) / 1000 (kg/ton)

	Value	Unit	Notes
Hour Limit	300	hr/yr	
Fuel Consumption		gal/hr	Manufacturer's data
No. 2 Oil Sulfur Content	0.4	%	
No. 2 Oil Heating Value	139	MMBtu/10^3 gal	
Heat Input Rate	6.34	MMBtu/hr	Applicant's info

Pollutant	AP-42 EF (lb/MMBtu)	Apllied EF (lb/MMBtu)	Emissions (lb/hr)	Emissions (TPY)
CO	0.85	0.85	5.39	**0.81**
NO_X	3.20	3.20	20.29	**3.04**
SO_2	0.404	0.404	2.56	**0.38**
VOC	0.0819	0.0819	0.52	**0.08**
PM[1]	0.0697	0.0697	0.44	**0.07**
PM-10[1]	0.0697	0.0697	0.44	**0.07**
PM-2.5[1]	0.0697	0.0697	0.44	**0.07**

Hazardous Air Pollutant (HAP)	AP-42 EF (lb/MMBtu)	Apllied EF (lb/MMBtu)	Emissions (lb/hr)	Emissions (TPY)
Acetaldehyde	2.52E-05	2.52E-05	1.60E-04	**2.40E-05**
Acrolein	7.88E-06	7.88E-06	5.00E-05	**7.49E-06**
1,3-Butadiene				
Benzene	7.76E-04	7.76E-04	4.92E-03	**7.38E-04**
Ethylbenzene				
Formaldehyde	7.89E-05	7.89E-05	5.00E-04	**7.50E-05**
Phosphorus				
1,1,1-Trichloroethane				
Toluene	2.81E-04	2.81E-04	1.78E-03	**2.67E-04**
Xylene	1.93E-04	1.93E-04	1.22E-03	**1.84E-04**
POM	2.12E-04	2.12E-04	1.34E-03	**2.02E-04**
Antimony Compounds				
Arsenic Compounds				
Beryllium Compounds				
Cadmium Compounds				
Chromium Compounds				
Cobalt Compounds				
Lead Compounds				
Manganese Compounds				
Mercury Compounds				
Nickel Compounds				
Selenium Compounds				
Total HAPs	1.57E-03	1.57E-03	9.98E-03	**1.50E-03**

Green Hourse Gas (GHG)	GWP	Apllied EF[2] (kg/MMBtu)	Mass-Based Emissions (kg/hr)	Mass-Based Emissions (TPY)	CO2e Based Emissions (TPY)
CO_2	1	75.10	476.13	142.84	142.8
CH_4	25	3.00E-03	0.02	0.006	0.1
N_2O	298	6.00E-04	3.8E-03	1.14E-03	0.3
Total				**142.85**	**143.3**

notes:
1. Assume PM=PM-10=PM-2.5 to be conservative.
2. EF from the Mandatory Greenhouse Gas Reporting rule (40 CFR §98, Tables C-1 and C-2).

REQUEST FOR PUBLIC COMMENTS
ON DRAFT AIR PERMIT
REGULATING THE EMISSIONS OF AIR POLLUTANTS

(Docket No. 18-CA-PA-02)

Pursuant to Hawaii Revised Statutes (HRS), Chapter 342B-13 and Hawaii Administrative Rules (HAR), Chapter 11-60.1, the Department of Health, State of Hawaii (DOH), is requesting public comments on the following **DRAFT PERMIT** presently under review for:

Covered Source Permit (CSP) No. 0235-01-C
Renewal Application No. 0235-02 and Minor Modification Application No. 0235-03
Hawaii Electric Light Company, Inc. (HELCO)
Puna Generating Station
One (1) 20 MW Combustion Turbine with a 600 KW Black Start Diesel Engine Generator, and One (1) 15.5 MW Boiler with a Multi-Cyclone Dust Collector
Located At: Puna Mill Road, Keaau, Hawaii

The **DRAFT PERMIT** is described as follows:

The renewal and minor modification of **CSP No. 0235-01-C** would grant conditional approval to Hawaii Electric Light Company, Inc. (HELCO) to continue to operate One (1) 20 MW Combustion Turbine with a 600 kW Black Start Diesel Engine Generator, and One (1) 15.5 MW Boiler with a Multi-Cyclone Dust Collector at Puna Generating Station. The combustion turbine is subject to 40 Code of Federal Regulations (CFR) Part 60, Standards of Performance for New Stationary Sources, Subpart GG, Standards of Performance for Stationary Gas Turbines. The back start diesel engine is subject to 40 CFR Part 63, National Emission Standards for Hazardous Air Pollutants for Source Categories, Subpart ZZZZ, National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines. The boiler is subject to 40 CFR Part 52, Approval and Promulgation of Implementation Plans, Subpart M, Hawaii, §52.633, Visibility Protection, and Part 63, National Emission Standards for Hazardous Air Pollutants for Source Categories, Subpart JJJJJJ, National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources. The modification to this facility is to allow CT-3 to operate below 25% (6.165 MW) of peak load (24.66 MW) with water injection for no more than 66 hours in any rolling 12-month period. This permit, if issued, will supersede CSP No. 0235-01-C, issued on November 15, 2002, in its entirety.

The **ADMINISTRATIVE RECORD**, consisting of the **APPLICATION** and non-confidential supporting material from the applicant, the permit review summary, and the **DRAFT PERMIT**, is available for public inspection during regular office hours, Monday through Friday, 7:45 a.m. to 4:15 p.m., at the following locations:

Oahu:

- Clean Air Branch, Department of Health
  2827 Waimano Home Road, Hale Ola Building, Room 130,
  Pearl City, Hawaii 96782

Hilo:

- Hawaii District Health Office, Department of Health
  1582 Kamehameha Avenue, Hilo, Hawaii

Kona:

- Sanitation Branch
  79-1020 Haukapila Street, Room 115, Kealakua, Hawaii

Kauai:

- Kauai District Heath Office, Department of Health
  3040 Umi Street, Lihue, Kauai

Maui:

- Maui District Health Office, Department of Health
  54 High Street, Room 300, Wailuku, Maui

All comments on the draft permit and any request for a public hearing must be in writing, addressed to the Clean Air Branch at the above address on Oahu, and must be postmarked or received by **March 29, 2018.**

Any person may request a public hearing by submitting a written request that explains the party's interest and the reasons why a hearing is warranted. The DOH may hold a public hearing if a hearing would aid in DOH's decision. If a public hearing is warranted, a public notice for the hearing will be published at least thirty (30) days in advance of the hearing.

Interested persons may obtain copies of the administrative record or parts thereof by paying **five (5) cents per page copying costs.** Please send written requests to the Oahu office of the Clean Air Branch listed above or call Ms. Chenyan Song at the Clean Air Branch in Honolulu at (808) 586-4200. Electronic copies of the draft permit and permit review may be found online at http://health.hawaii.gov/cab/public-notices/.

Comments on the draft permit should address, but need not be limited to, the permit conditions and the facility's compliance with federal and state air pollution laws, including: (1) the National and State Ambient Air Quality Standards; and (2) HRS, Chapter 342B and HAR, Chapter 11-60.1.

The DOH will make a final decision on the permit after considering all comments and will send notice of the final decision to each person who has submitted comments or requested such notice.

Virginia Pressler, M.D
Director of Health

AFFIDAVIT OF PUBLICATION

IN THE MATTER OF
REQUEST FOR PUBLIC COMMENTS (Docket No. 18-CA-PA-02)

STATE OF HAWAII }
} SS.
City and County of Honolulu }

Doc. Date: FEB 27 2018 **# Pages:** 1

Notary Name: COLLEEN E. SORANAKA First Judicial **Circuit**

Doc. Description: Affidavit of Publication

FEB 27 2018
Notary Signature Date

COLLEEN E. SORANAKA ★ NOTARY PUBLIC No. 90-263 ★ STATE OF HAWAII

Gwyn Pang being duly sworn, deposes and says that she is a clerk, duly authorized to execute this affidavit of Oahu Publications, Inc. publisher of The Honolulu Star-Advertiser, MidWeek, The Garden Island, West Hawaii Today, and Hawaii Tribune-Herald, that said newspapers are newspapers of general circulation in the State of Hawaii, and that the attached notice is true notice as was published in the aforementioned newspapers as follows:

Honolulu Star-Advertiser 1 times on:
02/27/2018

MidWeek 0 times on:

The Garden Island 0 times on:

Hawaii Tribune-Herald 0 times on:

West Hawaii Today 0 times on:

Other Publications: 0 times on:

And that affiant is not a party to or in any way interested in the above entitled matter.

Gwyn Pang

Gwyn Pang

Subscribed to and sworn before me this 27 day of February A.D. 2018

Colleen E. Soranaka, Notary Public of the First Judicial Circuit, State of Hawaii
My commission expires: Jan 06 2020

COLLEEN E. SORANAKA ★ NOTARY PUBLIC No. 90-263 ★ STATE OF HAWAII

Ad # 0001073456 SP.NO

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Puna Generating Station
One (1) 20 MW Combustion Turbine with a 600 KW Black Start Diesel Engine Generator, and One (1) 15.5 MW Boiler with a Multi-Cyclone Dust Collector
Located At: Puna Mill Road, Keaau, Hawaii

The DRAFT PERMIT is described as follows:

The renewal and minor modification of CSP No. 0235-01-C would grant conditional approval to Hawaii Electric Light Company, Inc. (HELCO) to continue to operate One (1) 20 MW Combustion Turbine with a 600 kW Black Start Diesel Engine Generator, and One (1) 15.5 MW Boiler with a Multi-Cyclone Dust Collector at Puna Generating Station. The combustion turbine is subject to 40 Code of Federal Regulations (CFR) Part 60, Standards of Performance for New Stationary Sources, Subpart GG, Standards of Performance for Stationary Gas Turbines. The back start diesel engine is subject to 40 CFR Part 63, National Emission Standards for Hazardous Air Pollutants for Source Categories, Subpart ZZZZ, National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines. The boiler is subject to 40 CFR Part 52, Approval and Promulgation of Implementation Plans, Subpart M, Hawaii, §52.633, Visibility Protection, and Part 63, National Emission Standards for Hazardous Air Pollutants for Source Categories, Subpart JJJJJJ, National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources. The modification to this facility is to allow CT-3 to operate below 25% (6.165 MW) of peak load (24.66 MW) with water injection for no more than 66 hours in any rolling 12-month period. This permit, if issued, will supersede CSP No. 0235-01-C, issued on November 15, 2002, in its entirety.

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The DOH will make a final decision on the permit after considering all comments and will send notice of the final decision to each person who has submitted comments or requested such notice.

Virginia Pressler, M.D
Director of Health

(SA1073456 2/27/18)

AFFIDAVIT OF PUBLICATION

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FEB 27 2018
Notary Signature Date

COLLEEN E. SORANAKA ★ NOTARY PUBLIC No. 90-263 ★ STATE OF HAWAII

Gwyn Pang being duly sworn, deposes and says that she is a clerk, duly authorized to execute this affidavit of Oahu Publications, Inc. publisher of The Honolulu Star-Advertiser, MidWeek, The Garden Island, West Hawaii Today, and Hawaii Tribune-Herald, that said newspapers are newspapers of general circulation in the State of Hawaii, and that the attached notice is true notice as was published in the aforementioned newspapers as follows:

Honolulu Star-Advertiser 0 times on:

MidWeek 0 times on:

The Garden Island 1 times on:
02/27/2018

Hawaii Tribune-Herald 0 times on:

West Hawaii Today 0 times on:

Other Publications: 0 times on:

And that affiant is not a party to or in any way interested in the above entitled matter.

Gwyn Pang

Gwyn Pang

Subscribed to and sworn before me this 27 day of February A.D. 2018

Colleen E. Soranaka, Notary Public of the First Judicial Circuit, State of Hawaii.
My commission expires: Jan 06 2020

COLLEEN E. SORANAKA ★ NOTARY PUBLIC No. 90-263 ★ STATE OF HAWAII

Ad # 0001075101 SP NO

REQUEST FOR PUBLIC COMMENTS
ON DRAFT AIR PERMIT
REGULATING THE EMISSIONS OF AIR POLLUTANTS

(Docket No. 18-CA-PA-02)

Pursuant to Hawaii Revised Statutes (HRS), Chapter 342B-13 and Hawaii Administrative Rules (HAR), Chapter 11-60.1, the Department of Health, State of Hawaii (DOH), is requesting public comments on the following DRAFT PERMIT presently under review for:

Covered Source Permit (CSP) No. 0235-01-C
Renewal Application No. 0235-02 and Minor Modification Application No. 0235-03
Hawaii Electric Light Company, Inc. (HELCO)
Puna Generating Station
One (1) 20 MW Combustion Turbine with a 600 KW Black Start Diesel Engine Generator, and One (1) 15.5 MW Boiler with a Multi-Cyclone Dust Collector
Located At: Puna Mill Road, Kaauu, Hawaii

The DRAFT PERMIT is described as follows:

The renewal and minor modification of CSP No. 0235-01-C would grant conditional approval to Hawaii Electric Light Company, Inc. (HELCO) to continue to operate One (1) 20 MW Combustion Turbine with a 600 KW Black Start Diesel Engine Generator, and One (1) 15.5 MW Boiler with a Multi-Cyclone Dust Collector at Puna Generating Station. The combustion turbine is subject to 40 Code of Federal Regulations (CFR) Part 60, Standards of Performance for New Stationary Sources, Subpart GG, Standards of Performance for Stationary Gas Turbines. The back start diesel engine is subject to 40 CFR Part 63, National Emission Standards for Hazardous Air Pollutants for Source Categories, Subpart ZZZZ, National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines. The boiler is subject to 40 CFR Part 52, Approval and Promulgation of Implementation Plans, Subpart M, Hawaii, §52.633, Visibility Protection, and Part 63, National Emission Standards for Hazardous Air Pollutants for Source Categories, Subpart JJJJJJ, National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources. The modification to this facility is to allow CT-3 to operate below 25% (6.185 MW) of peak load (24.66 MW) with water injection for no more than 66 hours in any rolling 12-month period. This permit, if issued, will supersede CSP No. 0235-01-C, issued on November 15, 2002, in its entirety.

The ADMINISTRATIVE RECORD, consisting of the APPLICATION and non-confidential supporting material from the applicant, the permit review summary, and the DRAFT PERMIT, is available for public inspection during regular office hours, Monday through Friday, 7:45 a.m. to 4:15 p.m., at the following locations:

Oahu:
- Clean Air Branch, Department of Health
  2827 Waimano Home Road, Hale Ola Building, Room 130,
  Pearl City, Hawaii 96782

Hilo:
- Hawaii District Health Office, Department of Health
  1582 Kamehameha Avenue, Hilo, Hawaii

Kona:
- Sanitation Branch
  79-1020 Haukapila Street, Room 115, Kealakua, Hawaii

Kauai:
- Kauai District Health Office, Department of Health
  3040 Umi Street, Lihue, Kauai

Maui:
- Maui District Health Office, Department of Health
  54 High Street, Room 300, Wailuku, Maui

All comments on the draft permit and any request for a public hearing must be in writing, addressed to the Clean Air Branch at the above address on Oahu, and must be postmarked or received by March 29, 2018 .

Any person may request a public hearing by submitting a written request that explains the party's interest and the reasons why a hearing is warranted. The DOH may hold a public hearing if a hearing would aid in DOH's decision. If a public hearing is warranted, a public notice for the hearing will be published at least thirty (30) days in advance of the hearing.

Interested persons may obtain copies of the administrative record or parts thereof by paying five (5) cents per page copying costs. Please send written requests to the Oahu office of the Clean Air Branch listed above or call Ms. Cheryan Song at the Clean Air Branch in Honolulu at (808) 586-4200. Electronic copies of the draft permit and permit review may be found online at http://health.hawaii.gov/cab/public-notices/.

Comments on the draft permit should address, but need not be limited to, the permit conditions and the facility's compliance with federal and state air pollution laws, including: (1) the National and State Ambient Air Quality Standards; and (2) HRS, Chapter 342B and HAR, Chapter 11-60.1.

The DOH will make a final decision on the permit after considering all comments and will send notice of the final decision to each person who has submitted comments or requested such notice.

Virginia Pressler, M.D
Director of Health

(TG)1075101 2/27/18)

AFFIDAVIT OF PUBLICATION

IN THE MATTER OF
REQUEST FOR PUBLIC COMMENTS (Docket No. 18-CA-PA-02)

STATE OF HAWAII)
) SS.
City and County of Honolulu)

FEB 27 2018

Doc. Date: _____ **# Pages:** 1

Notary Name: COLLEEN E. SORANAKA First Judicial Circuit

Doc. Description: Affidavit of Publication

FEB 27 2018

Notary Signature Date

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West Hawaii Today 1 times on:
02/27/2018

Other Publications: 0 times on:

And that affiant is not a party to or in any way interested in the above entitled matter.

Gwyn Pang

Gwyn Pang

Subscribed to and sworn before me this 27 day of February A.D. 2018

Colleen E. Soranaka, Notary Public of the First Judicial Circuit, State of Hawaii.
My commission expires: Jan 06 2020

COLLEEN E. SORANAKA ★ NOTARY PUBLIC No. 90-263 ★ STATE OF HAWAII

Ad # 0001073355 SP.NO

REQUEST FOR PUBLIC COMMENTS
ON DRAFT AIR PERMIT
REGULATING THE EMISSIONS OF AIR POLLUTANTS

(Docket No. 18-CA-PA-02)

Pursuant to Hawaii Revised Statutes (HRS), Chapter 342B-13 and Hawaii Administrative Rules (HAR), Chapter 11-60.1, the Department of Health, State of Hawaii (DOH), is requesting public comments on the following DRAFT PERMIT presently under review for:

Covered Source Permit (CSP) No. 0235-01-C
Renewal Application No. 0235-02 and Minor Modification Application No. 0235-03
Hawaii Electric Light Company, Inc. (HELCO)
Puna Generating Station
One (1) 20 MW Combustion Turbine with a 600 KW Black Start Diesel Engine Generator, and One (1) 15.5 MW Boiler with a Multi-Cyclone Dust Collector
Located At: Puna Mill Road, Keaau, Hawaii

The DRAFT PERMIT is described as follows:

The renewal and minor modification of CSP No. 0235-01-C would grant conditional approval to Hawaii Electric Light Company, Inc. (HELCO) to continue to operate One (1) 20 MW Combustion Turbine with a 600 kW Black Start Diesel Engine Generator, and One (1) 15.5 MW Boiler with a Multi-Cyclone Dust Collector at Puna Generating Station. The combustion turbine is subject to 40 Code of Federal Regulations (CFR) Part 60, Standards of Performance for New Stationary Sources, Subpart GG, Standards of Performance for Stationary Gas Turbines. The back start diesel engine is subject to 40 CFR Part 63, National Emission Standards for Hazardous Air Pollutants for Source Categories, Subpart ZZZZ, National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines. The boiler is subject to 40 CFR Part 52, Approval and Promulgation of Implementation Plans, Subpart M, Hawaii, §52.633, Visibility Protection, and Part 63, National Emission Standards for Hazardous Air Pollutants for Source Categories, Subpart JJJJJJ, National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources. The modification to this facility is to allow CT-3 to operate below 25% (6.165 MW) of peak load (24.66 MW) with water injection for no more than 68 hours in any rolling 12-month period. This permit, if issued, will supersede CSP No. 0235-01-C, issued on November 15, 2002, in its entirety.

The ADMINISTRATIVE RECORD, consisting of the APPLICATION and non-confidential supporting material from the applicant, the permit review summary, and the DRAFT PERMIT, is available for public inspection during regular office hours, Monday through Friday, 7:45 a.m. to 4:15 p.m., at the following locations:

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Kona:
- Sanitation Branch
  79-1020 Haukapila Street, Room 115, Kealakua, Hawaii

Kauai:
- Kauai District Heath Office, Department of Health
  3040 Umi Street, Lihue, Kauai

Maui:
- Maui District Health Office, Department of Health
  54 High Street, Room 300, Wailuku, Maui

All comments on the draft permit and any request for a public hearing must be in writing, addressed to the Clean Air Branch at the above address on Oahu, and must be postmarked or received by March 29, 2018.

Any person may request a public hearing by submitting a written request that explains the party's interest and the reasons why a hearing is warranted. The DOH may hold a public hearing if a hearing would aid in DOH's decision. If a public hearing is warranted, a public notice for the hearing will be published at least thirty (30) days in advance of the hearing.

Interested persons may obtain copies of the administrative record or parts thereof by paying five (5) cents per page copying costs. Please send written requests to the Oahu office of the Clean Air Branch listed above or call Ms. Cheryan Seng at the Clean Air Branch in Honolulu at (808) 586-4200. Electronic copies of the draft permit and permit review may be found online at http://health.hawaii.gov/cab/public-notices/.

Comments on the draft permit should address, but need not be limited to, the permit conditions and the facility's compliance with federal and state air pollution laws, including: (1) the National and State Ambient Air Quality Standards; and (2) HRS, Chapter 342B and HAR, Chapter 11-60.1.

The DOH will make a final decision on the permit after considering all comments and will send notice of the final decision to each person who has submitted comments or requested such notice.

Virginia Pressler, M.D
Director of Health

(WHT1073355 2/27/18)

AFFIDAVIT OF PUBLICATION

IN THE MATTER OF
REQUEST FOR PUBLIC COMMENTS (Docket No. 18-CA-PA-02)

STATE OF HAWAII }
} SS.
City and County of Honolulu }

Doc. Date: FEB 2 7 2018 **# Pages:** 1

Notary Name: COLLEEN E. SORANAKA First Judicial **Circuit**

Doc. Description: Affidavit of Publication

FEB 2 7 2018
Notary Signature Date

COLLEEN E. SORANAKA ★ NOTARY PUBLIC No. 90-263 ★ STATE OF HAWAII

Gwyn Pang being duly sworn, deposes and says that she is a clerk, duly authorized to execute this affidavit of Oahu Publications, Inc. publisher of The Honolulu Star-Advertiser, MidWeek, The Garden Island, West Hawaii Today, and Hawaii Tribune-Herald, that said newspapers are newspapers of general circulation in the State of Hawaii, and that the attached notice is true notice as was published in the aforementioned newspapers as follows:

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02/27/2018

West Hawaii Today 0 times on:

Other Publications: 0 times on:

And that affiant is not a party to or in any way interested in the above entitled matter.

Gwyn Pang

Gwyn Pang

Subscribed to and sworn before me this 27 day of February A.D. 2018

Colleen E. Soranaka, Notary Public of the First Judicial Circuit, State of Hawaii
My commission expires: Jan 06 2020

COLLEEN E. SORANAKA ★ NOTARY PUBLIC No. 90-263 ★ STATE OF HAWAII

Ad # 0001073453 SP.NO

REQUEST FOR PUBLIC COMMENTS
ON DRAFT AIR PERMIT
REGULATING THE EMISSIONS OF AIR POLLUTANTS

(Docket No. 18-CA-PA-02)

Pursuant to Hawaii Revised Statutes (HRS), Chapter 342B-13 and Hawaii Administrative Rules (HAR), Chapter 11-60.1, the Department of Health, State of Hawaii (DOH), is requesting public comments on the following DRAFT PERMIT presently under review for:

Covered Source Permit (CSP) No. 0235-01-C
Renewal Application No. 0235-02 and Minor Modification Application No. 0235-03
Hawaii Electric Light Company, Inc. (HELCO)
Puna Generating Station
One (1) 20 MW Combustion Turbine with a 600 KW Black Start Diesel Engine Generator, and One (1) 15.5 MW Boiler with a Multi-Cyclone Dust Collector
Located At: Puna Mill Road, Kapaa, Hawaii

The DRAFT PERMIT is described as follows:

The renewal and minor modification of CSP No. 0235-01-C would grant conditional approval to Hawaii Electric Light Company, Inc. (HELCO) to continue to operate One (1) 20 MW Combustion Turbine with a 600 KW Black Start Diesel Engine Generator, and One (1) 15.5 MW Boiler with a Multi-Cyclone Dust Collector at Puna Generating Station. The combustion turbine is subject to 40 Code of Federal Regulations (CFR) Part 60, Standards of Performance for New Stationary Sources, Subpart GG, Standards of Performance for Stationary Gas Turbines. The back start diesel engine is subject to 40 CFR Part 63, National Emission Standards for Hazardous Air Pollutants for Source Categories, Subpart ZZZZ, National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines. The boiler is subject to 40 CFR Part 52, Approval and Promulgation of Implementation Plans, Subpart M, Hawaii, §52.633, Visibility Protection, and Part 63, National Emission Standards for Hazardous Air Pollutants for Source Categories, Subpart JJJJJJ, National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources. The modification to this facility is to allow CT-3 to operate below 25% (8.165 MW) of peak load (24.86 MW) with water injection for no more than 96 hours in any rolling 12-month period. This permit, if issued, will supersede CSP No. 0235-01-C, issued on November 15, 2002, in its entirety.

The ADMINISTRATIVE RECORD, consisting of the APPLICATION and non-confidential supporting material from the applicant, the permit review summary, and the DRAFT PERMIT, is available for public inspection during regular office hours, Monday through Friday, 7:45 a.m. to 4:15 p.m., at the following locations:

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- Sanitation Branch
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Kauai:
- Kauai District Heath Office, Department of Health
  3040 Umi Street, Lihue, Kauai

Maui:
- Maui District Health Office, Department of Health
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All comments on the draft permit and any request for a public hearing must be in writing, addressed to the Clean Air Branch at the above address on Oahu, and must be postmarked or received by March 29, 2018 .

Any person may request a public hearing by submitting a written request that explains the party's interest and the reasons why a hearing is warranted. The DOH may hold a public hearing if a hearing would aid in DOH's decision. If a public hearing is warranted, a public notice for the hearing will be published at least thirty (30) days in advance of the hearing.

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Comments on the draft permit should address, but need not be limited to, the permit conditions and the facility's compliance with federal and state air pollution laws, including: (1) the National and State Ambient Air Quality Standards; and (2) HRS, Chapter 342B and HAR, Chapter 11-60.1.

The DOH will make a final decision on the permit after considering all comments and will send notice of the final decision to each person who has submitted comments or requested such notice.

Virginia Pressler, M.D
Director of Health

(HTH1073453 2/27/18)

AFFIDAVIT OF PUBLICATION

STATE OF HAWAII, }
County of Maui. } ss.

Rhonda M. Kurohara being duly sworn deposes and says,that she is in Advertising Sales of the Maui Publishing Co., Ltd., publishers of THE MAUI NEWS, a newspaper published in Wailuku, County of Maui, State of Hawaii; that the ordered publication as to

REQUEST FOR PUBLIC COMMENTS ON DRAFT AIR
DOCKET NO. 18-CA-PA-02

of which the annexed is a true and correct printed notice, was published 1 times in THE MAUI NEWS, aforesaid, commencing on the 27th day of February, 2018, and ending on the 27th day of February, 2018 (one day) inclusive), to-wit: on

February 27, 2018

and that affiant is not a party to or in any way interested in the above entitled matter.

This 1 page REQUEST FOR PUBLIC, dated February 27, 2018, was subscribed and sworn to before me this 27th day of February, 2018 in the Second Circuit of the State of Hawaii, by Rhonda M. Kurohara

Notary Public, Second Judicial Circuit, State of Hawaii

BETTY E. UEHARA
My Commission expires 09-26-2019

BETTY E. UEHARA NOTARY PUBLIC No. 83-344 STATE OF HAWAII

REQUEST FOR PUBLIC COMMENTS ON DRAFT AIR PERMIT REGULATING THE EMISSIONS OF AIR POLLUTANTS

(Docket No. 18-CA-PA-02)

Pursuant to Hawaii Revised Statutes (HRS), Chapter 342B-13 and Hav Administrative Rules (HAR), Chapter 11-60.1, the Department of Hea State of Hawaii (DOH), is requesting public comments on the follow DRAFT PERMIT presently under review for:

Covered Source Permit (CSP) No. 0235-01-C
Renewal Application No. 0235-02 and Minor Modification Application 1 0235-03
Hawaii Electric Light Company, Inc. (HELCO)
Puna Generating Station
One (1) 20 MW Combustion Turbine with a 600 KW Black Start Die Engine Generator, and One (1) 15.5 MW Boiler with a Multi-Cyclone D Collector
Located At: Puna Mill Road, Keaau, Hawaii

The DRAFT PERMIT is described as follows:

The renewal and minor modification of CSP No. 0235-01-C would gr conditional approval to Hawaii Electric Light Company, Inc. (HELCO) continue to operate One (1) 20 MW Combustion Turbine with a 600 I Black Start Diesel Engine Generator, and

One (1) 15.5 MW Boiler with a Multi-Cyclone Dust Collector at Puna G erating Station. The combustion turbine is subject to 40 Code of Fede Regulations (CFR) Part 60, Standards of Performance for New Station Sources, Subpart GG, Standards of Performance for Stationary Gas Turbin The back start diesel engine is subject to

40 CFR Part 63, National Emission Standards for Hazardous Air Polluta for Source Categories, Subpart ZZZZ, National Emissions Standards Hazardous Air Pollutants for Stationary Reciprocating Internal Combusti Engines. The boiler is subject to

40 CFR Part 52, Approval and Promulgation of Implementation Plans, St part M, Hawaii, §52.633, Visibility Protection, and Part 63, National Em sion Standards for Hazardous Air Pollutants for Source Categories, Subp JJJJJJ, National Emission Standards for Hazardous Air Pollutants for Indi trial, Commercial, and Institutional Boilers Area Sources. The modificati to this facility is to allow CT-3 to operate below 25% (6.165 MW) of pe load (24.66 MW) with water injection for no more than 66 hours in any re ing 12-month period. This permit, if issued, will supersede CSP No. 02: 01-C, issued on November 15, 2002, in its entirety.

The ADMINISTRATIVE RECORD, consisting of the APPLICATIC and non-confidential supporting material from the applicant, the perr review summary, and the DRAFT PERMIT, is available for public inspe tion during regular office hours, Monday through Friday, 7:45 a.m. to 4: p.m., at the following locations:

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  1582 Kamehameha Avenue, Hilo, Hawaii 96720

Kona:
- Sanitation Branch
  79-1020 Haukapila Street, Room 115, Kealakua, Hawaii 96750

Kauai:
- Kauai District Heath Office, Department of Health
  3040 Umi Street, Lihue, Kauai, Hawaii 96766

Maui:
- Maui District Health Office, Department of Health
  54 High Street, Room 300, Wailuku, Maui, Hawaii 96793

All comments on the draft permit and any request for a public hearing mu be in writing, addressed to the Clean Air Branch at the above address Oahu, and must be postmarked or received by March 29, 2018.

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Comments on the draft permit should address, but need not be limited to, t permit conditions and the facility's compliance with federal and state air po lution laws, including: (1) the National and State Ambient Air Quality Sta dards; and (2) HRS, Chapter 342B and HAR, Chapter 11-60.1.

The DOH will make a final decision on the permit after considering all con ments and will send notice of the final decision to each person who has sul mitted comments or requested such notice.

Virginia Pressler, M.D
Director of Health

(MN: Feb. 7, 2018)

SUMMARY OF COMMENTS RECEIVED ON THE DRAFT AIR PERMIT FOR HAWAII ELECTRIC LIGHT COMPANY, INC. PUNA GENERATING STATION LOCATED AT: KEAAU, HAWAII

I. OVERVIEW

Pursuant to Hawaii Administrative Rules (HAR), Chapter 11-60.1, a thirty (30) day public comment period was held for the draft permit renewal and minor modification for Covered Source Permit (CSP) No. 0235-01-C. The public comment period was from February 27, 2018, to March 29, 2018. The purpose of the public comment period was to solicit comments on the draft permit to be issued to Hawaii Electric Light Company, Inc. (hereinafter referred to as "Hawaii Electric"). Issuance of the permit will allow combustion turbine CT-3 to operate below twenty-five percent (25%) (6.165 MW) of peak load (24.66 MW) with water injection for no more than sixty-six (66) hours in any rolling twelve (12) month period. In addition, the draft permit incorporates the provisions specified for the Puna Boiler in Hawaii's Regional Haze Federal Implementation Plan and incorporates the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP) for area source boilers.

During the public comment period, the Department of Health, Clean Air Branch (hereinafter referred to as "Department") received comments from one commenter, Hawaii Electric. Hawaii Electric's comments and the Department's responses are addressed below in Section II, Comments and Responses. The Department also made administrative changes to the permit unrelated to Hawaii Electric's comments. These administrative changes are addressed in Section III, Additional Revisions.

In the Department's responses below, note that permit deletions are struck though and permit additions are underlined.

II. COMMENTS AND RESPONSES

1. Comment on Attachment IIA, Special Condition No. D.2.a, Attachment IIB, Special Condition No. D.2.a, Attachment IIC, Special Condition No. D.3.a:

   Request the use of American Society for Testing and Materials (ASTM) D7039 (Standard Test Method for Sulfur in Gasoline, Diesel Fuel, Jet Fuel, Kerosene, Biodiesel, Biodiesel Blends, and Gasoline-Ethanol Blends by Monochromatic Wavelength Dispersive X-ray Fluorescence Spectrometry) as an acceptable alternative method for measuring fuel sulfur content. The ASTM D7039 method provides precision for low sulfur fuels.

   Response:

   40 Code of Federal Regulations (CFR) Part 52, §52.633(d)(5)(iii) specifies the use of ASTM D4057 for obtaining fuel samples and requires the samples to be analyzed for total sulfur content using ASTM D129, or alternatively D1266, D1552, D2622, D4294, or D5453.

Available information indicates that ASTM D7039 provides equivalent results to ASTM D5453. EPA sponsored test program conducted on ASTM D7039 for determining the sulfur content of ultralow sulfur fuel also shows the test method is accurate and has no statistically observable bias. Additionally, ASTM D7039 has received approval for diesel sulfur testing under 40 CFR §80.584 and §80.585. Based on this information, the draft permit is changed as follows:

- Attachment IIA, Special Condition No. D.2.a:

  2. Fuel Specification

     a. The sulfur content of the fuel to be fired in CT-3 shall be determined by sampling each delivery prior to being combined with the existing fuel supply or alternate sampling option in accordance with 40 CFR, Appendix D to Part 75, Sections 2.2.3, 2.2.4.1, 2.2.4.2, and 2.2.4.3. The analysis may be performed by the permittee, supplier, or other qualified third party lab. The analysis shall be performed using one of the ASTM methods: D129-00, D2622-98, D4294-02, D1266-98, D5453-00, D1552-01, <u>D7039,</u> or a more current version of these ASTM methods.

- Attachment IIB, Special Condition No. D.2.a:

  2. Fuel Specification

     a. The sulfur content of the fuel to be fired in PBSG1 shall be determined by sampling each delivery prior to being combined with the existing fuel supply or alternate sampling option in accordance with 40 CFR, Appendix D to Part 75, Sections 2.2.3, 2.2.4.1, 2.2.4.2, and 2.2.4.3. The analysis may be performed by the permittee, supplier, or other qualified third-party lab. The analysis shall be performed using one of the ASTM methods: D129-00, D2622-98, D4294-02, D1266-98, D5453-00, D1552-01, <u>D7039,</u> or a more current version of these ASTM methods.

- Attachment IIC, Special Condition No. D.3.a:

  3. Fuel Specification

     a. The fuel to be fired in the Boiler shall be sampled and tested in accordance with the most current ASTM methods. A representative sample of each batch of fuel received shall be analyzed for its sulfur content and heat value following ASTM D4057. The samples shall be analyzed for the total sulfur content of the fuel using ASTM D129, or alternatively D1266, D1552, D2622, D4294, ~~or~~ D5453<u>, or D7039</u>. The analysis may be performed by the permittee, the supplier, or other third party lab.

2. <u>Comment on Attachment IIC, Special Condition No. C.1.a:</u>

   Request to add decimal for consistency behind the number “2” in the number “2%”.

Response:

For consistency, Attachment IIC, Special Condition No. C.1.a is changed to add the decimal as follows:

- Attachment IIC, Special Condition No. C.1.a:

    1. Fuel Specifications

        a. The Boiler shall be fired on No. 2 diesel, No. 6 fuel oil with 2.0% max sulfur content by weight, or specification (spec) used oil blended with Nos. 2 diesel or 6 fuel oil, with a maximum sulfur content not to exceed 2.0% by weight.

3. Comment on Attachment IIC, Special Condition Nos. E.2 and E.3:

Request to remove the added "Notifications" section and add the Regional Haze Emission Cap deviation reporting requirement to the "Deviations" section to be clear there is only one submittal.

Response:

Attachment IIC, Special Condition Nos. E.2 and E.3 are separate conditions. Attachment IIC, Special Condition No. E.2 is a requirement of Hawaii Administrative Rules (HAR) §11-60.1-16 for prompt reporting of deviations to the Department. Attachment IIC, Special Condition No. E.3 is a requirement of 40 CFR §52.633 for reporting SO_2 emission cap exceedances to the Department and EPA. The permittee must meet both of these requirements. Since requirements overlap for reporting to the Department, Attachment IIC, Special Condition Nos. E.2 and E.3 are revised as follows:

- Attachment IIC, Special Condition No. E.2:

    2. Deviations

        The permittee shall report to the Department in writing **within five (5) working days** any deviations from permit requirements, including those attributed to upset conditions, the probable cause of such deviations and any corrective actions or preventive measures taken. Corrective actions may include a requirement for additional source testing, more frequent monitoring, or could trigger implementation of a corrective action plan.

- Attachment IIC, Special Condition No. E.3:

    3. Notifications

        The permittee shall notify ~~the Department and~~ U.S. EPA, Region 9 in writing, of any exceedance of the emission cap specified in Attachment IIC, Special Condition No. C.2, **within thirty (30) days** of such exceedance.

(Auth.: HAR §11-60.1-3, §11-60.1-15, §11-60.1-16, §11-60.1-90;
40 CFR §52.633)[2,3]

4. Comment on Attachment IIC, Special Condition Nos. E.4.a, E.4.b, and E.5:

   Request for allowance to use equivalent forms for monitoring and annual emissions reports.

   Response:

   Permittee is allowed to use monitoring and annual emission report forms equivalent to those in the permit. Attachment IIC, Special Condition Nos. E.4.a, E.4.b, and E.5 are changed as follows:

   - Attachment IIC, Special Condition Nos. E.4.a and E.4.b:

     4. Monitoring Reports

        a. The permittee shall submit **semi-annually** the following reports to the Department. The reports shall be submitted within **sixty (60) days** after the end of each semi-annual calendar period (January 1 - June 30 and July 1 - December 31), and shall be signed and dated by a responsible official. The following enclosed forms, or equivalent, shall be used for reporting:

           Monitoring Report Form: Fuel Certification
           Monitoring Report Form: Specification Used Oil – Boiler; and
           Monitoring Report Form: Opacity Exceedances

        b. The permittee shall submit within **sixty (60) days** after each boiler tune-up, the attached **Monitoring Report Form: Boiler Tune-up**, or equivalent form, to the Department.

   - Attachment IIC, Special Condition No. E.5:

     5. Annual Emissions Reports

        As required by Attachment IV, Annual Emissions Reporting Requirements, and in conjunction with the requirements of Attachment III, Annual Fee Requirements, the permittee shall report **annually** the total tons per year emitted of each regulated air pollutant, including hazardous air pollutants. The reporting of annual emissions is due within **sixty (60) days** following the end of each calendar year. The following enclosed form, or equivalent, shall be used for reporting:

        Annual Emissions Report Form: Combustion Turbine Generator, Black Start Engine Generator and Boiler

5. Comment on Attachment IIC, Special Condition No. E.7:

   The Area Source Boiler NESHAP says that the compliance certification report should be submitted if the source experiences a deviation. Hawaiian Electric requested the condition be changed to require the submittal of a compliance certification report upon request or if there are deviations from 40 CFR Part 63, NESHAP, Subpart JJJJJJ requirements.

   Response:

   The Department concurs with the comment. Attachment IIC, Special Condition No. E.7 is revised as follows:

   - Attachment IIC, Special Condition No. E.7

     7. Five-year Compliance Certification Report

        The permittee shall: ~~prepare, by March 1 of the year following the calendar year during which a tune-up is completed, the enclosed **5-year Compliance Certification Report Form: Boiler**. The report shall be submitted to the Department and the U.S. EPA, Region 9, by March 15 of each 5-year reporting year for the boiler.~~

        a. Prepare, by March 1 of the year following the calendar year during which a tune-up is completed, the enclosed **Five (5) Year Compliance Certification Report Form: Boiler**. The report shall include a description of deviations, the time periods during which the deviations occurred, and the corrective actions taken.
        b. **Submit the report** to the Department or U.S. EPA, Region 9, **upon request**; and
        c. **Submit the report** to the Department and the U.S. EPA, Region 9, **by March 15 if there are any deviations** from the applicable requirements of 40 CFR Part 63, Subpart JJJJJJ.

6. Comment on Attachment IIC, Special Condition No. E.9:

   Request to delete the requirement of identifying the new source of used oil and providing laboratory report to be consistent with Hill CSP 0234-01-C Attachment IIC.E.9. Also request to delete requirement to include used oil amount in the laboratory report because batch size limit for used oil sample is not specified.

   Response:

   We are requesting supporting information, if not a laboratory report, to show that used oil obtained from other sources other than those listed in Attachment IIC, Special Condition No. C.3.d meets the limits specified in Attachment IIC, Special Condition No. C.3.g for approval of accepting used oil from another source. Therefore, Attachment IIC, Special Condition No. E.9 is revised as follows:

   - Attachment IIC, Special Condition No. E.9

9. Spec Used Oil

   The permittee shall submit a written request and receive prior written approval from the Department before accepting used oil from another source pursuant to Attachment IIC, Special Condition No. C.3.e. For each written request, the permittee shall identify the new source and provide a fuel supplier certification that includes the name of the fuel supplier, a statement from the fuel supplier that the used oil complies with the specifications of Attachment IIC, Special Condition No. C.3.g and properties of the used oil demonstrating it meets the requirements of Attachment IIC, Special Condition No. C.3.g. ~~laboratory report of the used oil that compares results from the used oil analysis to the limits specified in Attachment IIC, Special Condition No. C.3.g. For each used oil analysis, the laboratory report shall indicate the amount of used oil that sampling represents.~~

7. Comment on 5-Year Compliance Certification Report Form, Boiler:

   Change to submit form if Puna Boiler experiences deviations from any applicable requirements of 40 CFR Part 63, NESHAP, Subpart JJJJJJ during the reporting period, or upon request by the EPA.

   Response:

   For consistency with changes made to Attachment IIC, Special Condition No. E.7, see Comment No. 5 above, the form is changed as follows:

5-YEAR COMPLIANCE CERTIFICATION REPORT FORM
BOILER
COVERED SOURCE PERMIT NO. 0235-01-C

Issuance Date: xxxx **Expiration Date: xxxx**

In accordance with the Hawaii Administrative Rules, Title 11, Chapter 60.1, Air Pollution Control, and 40 Code of Federal Regulations, Part 60, Subpart JJJJJJ, the permittee shall complete and submit this report **at the frequency identified in Attachment IIC, Special Condition No. E.7.**~~to the Department of Health and U.S. EPA, Region 9, the following information biennially or every 5-years, as applicable~~:

(Make Copies for Future Use)

For Period:_____ Date:_____

Company Name:_____

Facility Name:_____

I certify that I have knowledge of the facts herein set forth, that the same are true, accurate, and complete to the best of my knowledge and belief, and that all information not identified by me as confidential in nature shall be treated by the Department of Health as public record.

Responsible Official (Print):_____

Title:_____ Phone Number:_____

E-Mail Address:_____

Responsible Official (Signature):_____

1. ~~Provide in the table below, information on whether or not the boiler complied~~ Identify any deviations with all relevant standards and other requirements of 40 CFR Part 63, Subpart JJJJJJ, a description of the deviations, the time periods during which the deviations occurred, and the corrective actions taken:

Boiler Description	Date(s) of Deviation ~~Does the Boiler Comply with 40 CFR Part 63, Subpart JJJJJJ?~~		Corrective Action Taken ~~Date of Most Recent Boiler Tune-up~~
	~~Yes~~ From	~~No~~ To	

If there were no deviation, state "no deviations" in the table above.

2. "This facility complies with the requirements of 40 CFR §63.11223 to conduct a five-year (5 year) tune-up, as applicable, of the boiler." Yes _____ No _____

3. Date of most recent boiler tune-up: _____

8. Comment on Visible Emissions Form Requirements:

   Request for allowance to use equivalent forms for VE form.

   Response:

   The VE form is a standard form for permits issued with the VE monitoring requirement. CAB is not allowing the use of an equivalent form in place of the VE form.

III. Additional Revisions

1. The mailing address for the Department and EPA has been changed in various areas of the permit. The correct mailing address for the Department and EPA are shown below.

   a. Department's mailing address:

      State of Hawaii
      Clean Air Branch
      2827 Waimano Home Road, #130
      Pearl City, HI 96782

b. EPA's mailing address:

Manager
Enforcement Division, Air Section
U.S. Environmental Protection Agency, Reg. 9
75 Hawthorne Street, ENF-2-1
San Francisco, CA 94105